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PREFACE

We are proud to present the Final Report of the Eighth Annual SEC Government-Business Forum on Small Business Capital Formation. It is remarkable that this program retains its vitality after eight repetitions; yet it is true, and it is attributable to the constant changes in small business and the representatives sent to the Forum each and every year.

In the report which follows, 17 substantive recommendations are presented for the consideration of the Congress and governmental regulatory agencies. Past recommendations have been developed into helpful changes to the regulatory system which have eased burdens on small businesses in search of capital. It is hoped that the recommendations which follow will lead to similar satisfactory results.

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the Eighth Annual SEC
Government-Business Forum on Small
Business Capital Formation

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I. SUMMARY OF FORUM RECOMMENDATIONS

A. SEED CAPITAL AND EARLY STAGE FINANCING

RECOMMENDATION 1
The Small Business Administration should provide additional educational services and assistance with regard to new financing sources and networks.

RECOMMENDATION 2
Governmental incentives should be developed for investments in start-up and early stage ventures.

RECOMMENDATION 3
Passive loss limitation rules imposed by the Tax Reform Act of 1986 should be relaxed to permit pass-through of losses for small business investment activities.

RECOMMENDATION 4
The Glass-Steagall Act should be amended to permit banks to invest a small amount of their capital in the equity securities of small businesses.

B. ENACTMENT OF CAPITAL GAINS TAX DIFFERENTIAL FOR INVESTMENTS IN SMALL BUSINESS

RECOMMENDATION 1
Congress should enact legislation reestablishing the capital gains differential for investments in small business that are held for substantial periods of time, i.e., 3-5 years.

RECOMMENDATION 2
Capital gains from small business/start-up investment that are reinvested in another qualifying small business within no more than 2 years should not be subject to taxation at that time.

RECOMMENDATION 3
Any capital gains rate differential should be substantial, i.e., 50 percent or more.

RECOMMENDATION 4
Any favorable treatment for capital gains should be only prospective.

C. SECURITIES REGULATIONS AFFECTING SMALL BUSINESS

RECOMMENDATION 1

The Commission in concert with the North American Securities Administrators Association should continue to encourage the states to adopt the uniform limited offering exemption, and also encourage the adoption of the Form U-7 disclosure model.

RECOMMENDATION 2

The Regulation A ceiling should be increased to $3 million, and substantive revisions made to its operational and disclosure requirements to make the regulation more useful for small businesses.

RECOMMENDATION 3

The SEC should adopt changes in Regulation D to permit some limited form of general solicitation for offerings under $5 million.

RECOMMENDATION 4

The Commission should adopt a self-executing de minimis dollar amount, numerical purchaser exemption.

RECOMMENDATION 5

The registration system of the states "Blue Sky" laws should be preempted by Congress.

D. THE USE OF LEVERAGED BUYOUTS BY SMALL BUSINESS

RECOMMENDATION 1

In attempting to adopt laws to prevent abuses in the LBO area, Congress should keep in mind that LBOs may be an important capital raising device for small businesses. Therefore, appropriate exemptions for small business should be included in any legislation.

RECOMMENDATION 2

Leveraged ESOPs provide important liquidity and capital to small companies. The tax status of leveraged ESOPs should not be changed.

RECOMMENDATION 3

Congress should amend the Internal Revenue Code to provide that the first $100,000 of both interest and dividend payments are deductible and all remaining payments would be non-deductible. This should apply to all corporate returns.

E. MISCELLANEOUS RECOMMENDATION

Congress should adopt a fiscally responsible solution to balance the budget so that private business does not have to compete with the Government for funds.

II. INTRODUCTION

A. Background

The Small Business Investment Incentive Act of 1980 requires that the U. S. Securities and Exchange Commission provide an annual forum on issues relating to capital formation by small businesses. Therefore, the SEC Government-Business Forum on Small Business Capital Formation has been held in each of the past eight years. Past Forums have resulted in numerous recommendations for legislative and regulatory reform in the areas of taxation, securities, financial services, and state assistance. Attendance at the Forum is geared toward small business owners, venture capitalists, government officials, trade association representatives, academicians, and other advocates of small business. The format of the Forum in recent years has combined a lecture/information-producing platform followed by small interactive participant groupings which generate candid discussions on current areas of concern in the capital formation process.

B. Issue Selection

The Eighth Annual Forum was held in Washington, D.C. on September 21-22, 1989. Preparations for the Forum commenced in the previous January, when the Executive Committee had its initial planning session. That Executive Committee is charged with the formulation of the substantive and other organizational aspects of the meetings. It is a group of senior representatives from government and industry with an interest and expertise in the issues and problems encountered by small business in the raising of capital.

The Committee determined that a format consisting of panel discussions followed by break-out groups with the participants voicing their concerns would be utilized, having been successfully utilized the previous year. The topics for discussion would include issues relating to seed

capital and early stage financing, enactment of a capital gains tax differential for investments in small business, recent developments in securities law, and the use of leveraged buyouts by small business.

C. Conduct of the Forum

The Forum was opened with introductory remarks from SEC Commissioner Edward H. Fleischman. Each panel discussion on the subjects selected by the Executive Committee as indicated above was followed by small break-out sessions comprised of the panelists and Forum participants over the course of the following two days. Luncheon addresses were provided by Joseph W. Bartlett of the law firm of Gaston & Snow, New York, New York and Joseph I. Goldstein, Associate Director, Division of Enforcement, U.S. Securities and Exchange Commission. At the close of the sessions, recommendations from each of the break-out groups were collected. Eighteen recommendations were subsequently sent to the Forum participants for their collective consideration. Seventeen of these recommendations were approved by the responding participants and they are explained in the following section of this report. For each topic area, the recommendations are presented in order of their approval by the respondents, determined by the number of favorable votes received. One recommendation, i.e., "For purposes of preferred tax treatment, capital gains should be restricted to productive assets, i.e., assets involved in the production of goods and services," did not receive a plurality of favorable votes and thus does not constitute a recommendation of the Eighth Annual Forum.

While the U. S. Securities and Exchange Commission hosts this annual convocation of small business friends and advocates and is pleased to serve as such, it in no way seeks to sponsor or influence any of the Forum's

recommendations. While a number of these matters are of substantial interest to the Commission as an institution, it takes no position on any of the recommendations, at this time. The views which follow are those of the Forum participants.

III. SEED CAPITAL AND EARLY STAGE FINANCING

A. Statement of the Issues

Equity capital is essential to the establishment of a business and its continuing viability. Once the personal resources of the small business entrepreneur and those of relatives and friends are exhausted, such capital must be sought from external sources. Sources of capital include the public marketing of securities, the assistance of venture capitalists, federal and state assistance programs, and the so-called informal investor network. Small businesses are generally concerned about the raising of capital and what is available at various stages of an emerging company's growth.

B. Recommendations

RECOMMENDATION 1

The Small Business Administration should provide additional educational services and assistance with regard to new financing sources and networks.

The Small Business Administration provides many services for small businesses in addition to its widely known loan programs. Information services and commissioned studies have been at the forefront in recent years. The Forum participants felt that efforts could be expanded by the SBA to enhance its current efforts in the provision of needed helpful information with regard to available sources of capital. In particular, the informal network of capital and its sources would be of great value to small businesses.

RECOMMENDATION 2

Governmental incentives should be developed for investments in start-up and early stage ventures.

Tax relief could be targeted to investors in the informal investor network, and to institutional investors as well. Such relief could permit deductions to the business of interest and other business expense in non-arm's length transactions and still permit the investor tax relief; or be in the form of a credit for moneys invested in either a small business or a seed capital fund. A number of states and local governments provide for some form of tax credit/incentive for small business development. An example is contained in Kansas (Kansas Statutes Annotated 74-8301 — 74-8311). A similar approach, on a unified 50 state basis, would be worth consideration.

The rules governing the so-called sub-chapter S corporation could be revised to permit trusts and other corporations to invest in these entities without a negative tax impact.

RECOMMENDATION 3

Passive loss limitation rules imposed by the Tax Reform Act of 1986 should be relaxed to permit pass-through of losses for small business investment activities.

Section 469 of the Internal Revenue Code of 1986 and the regulations of the Internal Revenue Service thereunder prohibit the offsetting of passive activity losses from income which is not passively generated. The Congressional design was to stop the avoidance of tax liability by investors on their salaries and other compensation by simply investing in business entities which pass-through losses, i.e., tax sheltered investments. As the practice under these provisions has developed over the past three years, the Federal government should now be able to make refined assessments as to the types of investments which

were only geared to tax avoidance, in contrast to those which are designed to vitalize the economy through the activities of viable small businesses.

RECOMMENDATION 4

The Glass-Steagall Act should be amended to permit banks to invest a small amount of their capital in the equity securities of small businesses.

The Banking Act of 1933, i.e., Glass-Steagall, was an effort to restore public confidence to a crumbling banking system in the midst of a great economic depression. Significant among its provisions are those designed to work a substantial separation between commercial and investment banking. In brief, the statute prohibits the underwriting of corporate securities by commercial banks, and their affiliation with entities engaged in such underwriting. It is apparent that relaxation to some extent of these restrictions on commercial banks would open up many new financing opportunities for small business.

IV. ENACTMENT OF A CAPITAL GAINS TAX DIFFERENTIAL FOR INVESTMENTS IN SMALL BUSINESS

A. Statement of the Issues

On October 22, 1986, the Tax Reform Act of 1986 became law. One of its major provisions worked an effective repeal of the capital gains tax differential so that after 1987, both long-term capital gains and short-term capital gains would be taxed at ordinary income rates. Some have argued that a significant differential between the tax rates on capital gains and ordinary income works desirable economic results, such as producing new risk capital for businesses, entrepreneurship and the creation of new jobs. Others suggest that no significant broad-based economically positive results come from the differential. The issue of whether the differential provides an investment incentive is an important one for small business.

B. Recommendations

RECOMMENDATION 1

Congress should enact legislation reestablishing the capital gains differential for investments in small business that are held for substantial periods of time, i.e., 3-5 years.

A tax differential does encourage the investment of capital in small businesses. By requiring a long holding period for beneficial tax treatment, investment savings would be encouraged which would have an additional beneficial impact upon the economy as a whole.

RECOMMENDATION 2

Capital gains from small business/start up investment that are reinvested in another qualifying small business within no more than 2 years should not be subject to taxation at that time.

A rolling over of small business investments is a desirable utilization of moneys since it targets the investment to an area which has proven to be the economy's most vital producer of business activity and new jobs. Investors willing to stand behind this activity should not be penalized when they move their invested moneys among small businesses.

RECOMMENDATION 3

Any capital gains rate differential should be substantial, i.e., 50 percent or more.

It is believed that a capital gains differential will stimulate new jobs, personal savings and investment in small businesses. Such investment will lead to new products, ideas and businesses. A substantial differential brings into play a fairer balance between risk and rewards. It would encourage risk-taking on both the part of investor and entrepreneur alike. The reward side of the equation may benefit the development of healthier businesses through the reinvestment of profits in the business rather than the payout of dividends.

RECOMMENDATION 4

Any favorable treatment for capital gains should be only prospective.

A change in the treatment of capital gains which is retroactive permits the sale of investments acquired at any time, garnering the favorable taxation. It does not exclusively encourage new investments, as a prospective enactment would. Retroactivity also encourages resale of investments possibly taken with a view to long-term

holding, for a time which may be limited, thus causing a race to the marketplace which may create negative forces for the economy such as inflation. Capital gains treatment should be limited to investments subsequent to the date of any effective legislation on the matter.

V. SECURITIES REGULATIONS AFFECTING SMALL BUSINESS

A. Statement of the Issues

A ubiquitous cost consideration to any small business seeking to raise capital through the issuance and distribution of its securities is that imposed by compliance with the United States system of securities regulation - a system comprised of not only federal regulation, but also 50 individual and different state systems. Major costs of the regulatory system arise in the areas of legal and accounting compliance. The Securities and Exchange Commission as the federal regulator of securities matters and the North American Securities Administrators Association, Inc. ("NASAA") as a representative for the 50 state securities administrators have shown a receptiveness to the concerns of small business. A number of recommendations from past Government-Business Forums have received favorable action in the securities regulation area.

B. Recommendations

RECOMMENDATION 1

The Commission in concert with the North American Securities Administrators Association should continue to encourage the states to adopt the uniform limited offering exemption, and also encourage the adoption of the Form U-7 disclosure model.

In recognition of the hardships the securities regulatory system has had upon small business, the SEC and NASAA have joined forces in a continuing effort to coordinate the federal and state regulatory systems and provide one uniform system. Significant products of these efforts are Regulation D and the Uniform Limited Offering Exemption ("ULOE"). Regulation D under the federal Securities Act of 1933 provides three different exemptions from the

registration requirements of that statute. ULOE is a policy statement of NASAA which in one form or another has been adopted in about 35 states; ULOE provides an exemption which is comparable to two of the Regulation D exemptions.

The Uniform Limited Offering Registration or Form U-7 adopted by NASAA is designed to permit a public offering under one of the Regulation D exemptions. Such an offering would be exempt at the federal level, and when a state has adopted the simple fill-in-the-blanks Form U-7, registered at the state level. Widespread adoption of the form will permit small public offerings of securities for up to $1 million with a diminished amount of regulatory interference, but a significant amount of important information for investors to make an intelligent decision.

RECOMMENDATION 2

The Regulation A ceiling should be increased to $3 million, and substantive revisions made to its operational and disclosure requirements to make the regulation more useful for small businesss.

Section 3(b) of the Securities Act of 1933 authorizes the SEC to exempt any class of securities from the registration requirements of that Act when it is not necessary for the public interest or the protection of investors by virtue of the small amount of the offering or the limited character of the public offering. The maximum aggregate amount per issuance alloted by the statute for exemption is $5 million. Regulation A is a general Commission exemption promulgated pursuant to this authority. It is limited to $1.5 million in any 12-month period, and requires fairly detailed information to be provided to the Commission which is subjected to a staff review. It has been more than 10 years since a Commission examination of the exemption has been undertaken. Many revisions, including an increase in the ceiling, could be made, to rejuvenate the regulation making it more helpful and useful to small businesses.

RECOMMENDATION 3

The SEC should adopt changes in Regulation D to permit some limited form of general solicitation for offerings under $5 million.

Conditions to the availability of the exemptions provided by Regulation D for most transactions prohibit the use of general solicitation or general advertising in the marketing and sale of the securities. The purpose of the condition is to ensure the limited and non-public nature of the transaction which is accorded exempt status. The Commission should consider permitting some limited, clearly defined, level of general solicitation for offerings under Rules 504 and 505.

RECOMMENDATION 4

The Commission should adopt a self-executing de minimis dollar amount, numerical purchaser exemption.

Prior to the adoption of Regulation D, the Commission rules acknowledged the concept of a *de minimis* transactional exemption for up to $100,000 worth of sales in a 12-month period. While the rule (Rule 240) was subsumed into Regulation D, an additional lower dollar amount exemption limited to a specified number of purchasers, such as 10, as recognized in many of the state laws, would be desirable and helpful for the capital formation needs of small business.

RECOMMENDATION 5

The registration system of the states "Blue Sky" laws should be preempted by Congress.

Under federal law, the rights of the several states to independently regulate securities transactions is preserved. The result is a system of securities regulation which encompasses not only the federal but also 50 separate state systems. There are significant costs of complying with each

set of requirements where comprehensive differences exist. Preempting the state registration processes could work significant cost savings for issuers selling their securities.

VI. THE USE OF LEVERAGED BUYOUTS BY SMALL BUSINESS

A. Statement of the Issues

Leveraged buyouts ("LBOs") have received much media attention in recent years. An LBO is an acquisition of assets or stock financed with a small amount of equity and a large amount of debt typically secured by the acquisition target's assets. The resulting debt is serviced by the company's cash flow from operations and its assets. Positive results may flow from a properly structured LBO, such as no taxation in connection with the transaction itself and minimal taxes in the future. Prior to the wide scale use of the LBO by large publicly traded corporations, the LBO was a frequently used technique for initial ventures and founders to extract their investment from a small business.

B. Recommendations

RECOMMENDATION 1

In attempting to adopt laws to prevent abuses in the LBO area, Congress should keep in mind that LBOs may be an important capital raising device for small businesses. Therefore, appropriate exemptions for small business should be included in any legislation.

Small business has a legitimate concern that Congressional action to combat LBO abuse particularly in the area of taxation may have an unintended negative impact upon a long-standing financing vehicle used by small business. Any changes in the application of law to the LBO should be made with an awareness of the beneficial aspects of the transaction in a small business context.

RECOMMENDATION 2

Leveraged ESOPs provide important liquidity and capital to small companies. The tax status of leveraged ESOPs should not be changed.

An employee stock ownership plan ("ESOP") is an effective way for a company to retain internally generated capital. There are presently numerous benefits under the tax laws for those qualified plans. Leveraging plan assets presents added tax advantages to both the borrower and lender. Thus, the ESOP provides a source of capital for the company. Changing the tax concepts applicable to ESOPs will have a negative impact on small businesses.

RECOMMENDATION 3

Congress should amend the Internal Revenue Code to provide that the first $100,000 of both interest and dividend payments are deductible and all remaining payments would be non-deductible. This should apply to all corporate returns.

The Internal Revenue Code continues to present an incentive for corporations to raise capital through the issuance of debt with attached interest deduction, rather than the doubly-taxed dividend distributions on equity securities. Even modest relief would work as an incentive to pay out dividends and seek additional capital. More corporate distributions will expand the pool of capital available to new companies, encourage investment and aid the economy.

VII. MISCELLANEOUS

A. Statement of the Issues

The continuing deficit position of the federal government remains a deep concern to small business. In its 1985 report, the forum voted as its number 1 concern in the tax policy area, the issue of the budget deficit. The concern has not been abated.

B. Recommendation

Congress should adopt a fiscally responsible solution to balance the budget so that private business does not have to compete with the Government for funds.

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IX. EXHIBIT

RESEARCH REPORT NO. 5

REPORTING REQUIREMENTS UNDER THE SECURITIES EXCHANGE ACT OF 1934 AS THEY AFFECT SMALL BUSINESSES: DEFINING THE "SMALL PUBLIC COMPANY"

by

Karen V. Pincus

School of Accounting
University of Southern California

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ABOUT THE AUTHOR

DR. KAREN V. PINCUS is an Assistant Professor in the School of Accounting at the University of Southern California (USC). Professor Pincus received her doctorate from the University of Maryland in August 1984. Her primary research interests concern audit information processing and decision-making, fraud prevention and detection, and public policy issues in accounting and auditing. Professor Pincus has conducted research on audit judgment and fraud under grants from the Peat Marwick Foundation Research Opportunities in Auditing program and from the Deloitte Haskins + Sells Foundation. Through USC's SEC and Financial Reporting Institute, she (together with Drs. William Holder and Theodore Mock) conducted a research study sponsored by the National Commission on Fraudulent Financial Reporting (the Treadway Commission). Her publications include articles in *Auditing: A Journal of Practice and Theory*; *Accounting, Organizations and Society*; *Research in Accounting Regulation*; the *Journal of Accounting and Public Policy*; and *The Journal of Accountancy*.

Professor Pincus is a certified public accountant and a member of the AICPA. She is active in the Auditing section of the American Accounting Association, where her activities have included serving as the section's Program Director for the 1989 and 1990 annual meetings. She also serves on several editorial boards, including those of *Auditing: A Journal of Practice and Theory*, *Behavioral Research in Accounting* and *Accountability in Research*. In 1989, Dr. Pincus became Associate Director of the SEC and Financial Reporting Institute and was named an Academic Fellow of the California Society of Certified Public Accountants.

MESSAGE FROM THE DIRECTOR

This is the fifth report in the SEC and Financial Reporting Institute Research Report Series. This report addresses the issue of reporting requirements under the Securities Act of 1934 as they affect small business. The study was undertaken at the request of Linda C. Quinn, Director, Division of Corporation Finance, Securities and Exchange Commission and was funded by the SEC and Financial Reporting Institute. The results of Dr. Pincus's study as described in this monograph should assist policy setters in developing future reporting requirements for small businesses.

We at the SEC and Financial Reporting Institute would like to express our special appreciation to Karen V. Pincus for her efforts on this project. Her commitment to the study and her skills in planning and conducting the research were responsible for the success of the project.

March, 1990

Michael L. Diamond
Dean and Director
SEC and Financial Reporting Institute
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MESSAGE FROM MARY E. T. BEACH,* ASSOCIATE DIRECTOR, DIVISION OF CORPORATION FINANCE, UNITED STATES SECURITIES AND EXCHANGE COMMISSION

For several years, the Division of Corporation Finance of the U. S. Securities and Exchange Commission has been considering the appropriate criteria to be used to trigger reporting obligations under the Exchange Act. This research study, *Reporting Requirements Under The Securities Exchange Act of 1934 As They Affect Small Businesses: Defining the "Small Public Company"* will be used by the Division in connection with future re-examination of the Exchange Act reporting obligations.

I believe that the report will make an important contribution to the Division's rule-making efforts. Commissioner Fleischman indicated in his opening remarks at the 1989 Government-Business Forum on Small Business Capital Formation that in his opinion, also, the research report will be extremely valuable.

I have enjoyed working with Dr. Pincus and the SEC and Financial Reporting Institute over the past couple of years and hope we may have the opportunity to work together again in the future.

As a matter of policy, the Commission disclaims responsibility for the views expressed by its employees. Such views are those of the author and do not necessarily represent the views of the Commission or other staff members.

ACKNOWLEDGMENTS

This project would not have been possible without the efforts of numerous people. Via the SEC and Financial Reporting Institute, Directors Jerry Arnold and Michael Diamond, Dean of the USC School of Accounting, provided strong support for the project. The cooperation of many people at the Securities and Exchange Commission, particularly Mary E. T. Beach, Associate Director, Division of Corporation Finance, was invaluable. The comments of several people at the Securities and Exchange Commission, notably Ken Lehn and Mauri Osheroff, on earlier drafts were especially helpful.

Access to necessary data was made possible through the efforts of the Crocker Business Library at the University of Southern California, headed by Judy Truelson, and was assisted by Lilian Yang, School of Accounting Librarian. Access to data was also made possible through the efforts of Jean Tobin, New York Stock Exchange; Jules Winters and Dolores Pallon, American Stock Exchange; and Gene Finn and D. Timothy McCormick, National Association of Securities Dealers.

The data collection efforts of the following University of Southern California graduate and undergraduate students were a major contribution to the progress of this project: Deanna Cambeiro, Betty Chavis, Hawani Chendra, Carrie Cheng, Yennie Gunadi, Irene Guzman, David Kerestes, Wendy Kim, Doug Klein, Paul Malin, David Smith, John Thompson, and Debra West. In particular, the efforts of Betty Chavis, a USC doctoral student, are much appreciated.

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CHAPTER ONE:
BACKGROUND AND OBJECTIVES OF THE STUDY

This study is concerned with businesses which are subject to reporting requirements under the Securities Exchange Act of 1934 (the 1934 Act). In particular, it is concerned with the affect of 1934 Act reporting requirements on small businesses. This chapter presents an introduction to the study. To provide perspective, the chapter begins with a discussion of the call for small business regulatory relief and the Securities and Exchange Commission's (SEC) response to this charge. A brief discussion of regulatory relief efforts as public policy is then presented, followed by a consideration of the problems inherent in an attempt to evaluate the costs and benefits of regulation. The chapter concludes with a description of the major objectives of the research study.

BACKGROUND

The Call For Small Business Regulatory Relief

In September, 1980, the United States Congress enacted the Regulatory Flexibility Act.[1] By that law, all federal agencies were directed to minimize the disproportionate impact of Federal regulations on small businesses. One month later, Congress enacted the Small Business Investment Incentive Act of 1980[2], which, among other things, added Section 19(c) to the Securities Act of 1933 (the 1933 Act). In Section 19(c), Congress specifically called both for a substantial reduction in costs and paperwork related to raising investment capital, particularly for small businesses, and for a reduction of the costs of administration of securities regulation at the Federal and states levels, reflecting a broad concern for regulatory relief. The Small Business Investment Incentive Act also established the annual Government-Business Forums on Small Business Capital Formation. In order to promote uniform federal/state securities regulation, annual meetings were inaugurated between the SEC and the North American Securities Administrators Association (NASAA), the organization of state securities regulators.

[1] Public Law 96-354.

[2] Public Law 96-477.

The SEC's Response

The Securities Act of 1933 and the Securities Exchange Act of 1934 are the foundation for the SEC's efforts to ensure, on a continuous basis, full and fair disclosure about companies that have offered and sold securities to the public. The 1933 Act provides for registration and disclosure for offerings of securities by issuers, affiliates of the issuer, or underwriters. The 1934 Act, among other things, governs secondary market trading and continuing reporting requirements.

Exemptions from 1933 Act Requirements. The Securities Act of 1933 requires firms which offer securities for public sale (using interstate commerce or through the mails) to file a registration statement with the SEC and provide potential investors with a prospectus disclosing relevant information about the offering and the company.

In March, 1982, in response to the Small Business Investment Incentive Act and section 19(c) of the 1933 Act, the SEC adopted Regulation D, which provides three exemptions from the registration requirements of the 1933 Act. Two of these exemptions relate to offerings under $1 million and $5 million, respectively, and are intended to directly benefit small businesses. The third exemption is a safe harbor rule under the statutory private offering exemption and may be used to raise unlimited amounts of capital by large as well as small companies. This exemption has, however, been used extensively by small businesses. Regulation D is also the cornerstone of the Uniform Limited Offering Exemption (ULOE) endorsed by the NASAA and adopted in some form by 36 states. The adoption of Regulation D, in conjunction with the 1979 adoption of the simplified Form S-18 registration statement, and the long existing conditional exemptions from registration under Regulation A, considerably eased access to the securities markets for small businesses.[3]

1934 Act Requirements. The Securities Exchange Act of 1934 endowed the SEC with broad regulatory responsibility for the securities markets, the securities industry's self-regulatory organizations, and various persons conducting a business in securities. The 1934 Act also requires registration of outstanding securities of publicly owned companies which

[3] For example, see James G. Manegold, *An Empirical Analysis of the New Issues Securities Markets: The Effects of the Form S-18 Registration Statement*, Research Report No. 2, SEC and Financial Reporting Institute, University of Southern California, December 1985.

meet the total assets and number of shareholders tests of Section 12(g). Additionally, several reporting requirements are imposed by the 1934 Act. These reporting requirements are directed towards satisfying information needs for investment decisions and corporate suffrage decisions.[4]

Pursuant to Sections 13 or 15(d), annual, quarterly and current (events-based) reports must be filed by companies with securities which are registered under Sections 12b and 12g, and companies which are subject to the reporting requirements as a result of having securities registered under the 1933 Act. Under current regulations, the annual report (filed as Form 10-K to the SEC) must include, among other things, a description of the company's business, audited financial statements, a summary of selected financial data, information about major segments of the business, and management's discussion and analysis of the company's financial condition and results of operations. Many of these items now also appear in the annual report sent to shareholders and are incorporated by reference into the 10-K. Additionally, quarterly (Form 10-Q) reports for the first three quarters of a company's fiscal year are filed. And, on a more current basis, companies must also file Form 8-K reports for any significant events which occur between reporting dates. Examples of such events include the acquisition or disposal of significant business assets, resignations from the Board of Directors, and changes in the company's independent auditor.

Additional disclosures are required by Sections 14 and 16 of the 1934 Act for companies subject to Section 12. Proxy solicitations and tender offers are regulated under Section 14. For example, a company must furnish certain information to its shareholders if it intends to solicit proxies (the legal authorization to vote on behalf of an absent stockholder) for a shareholders' meeting. This information must be filed with the SEC before it is released to the shareholders. Additionally, Section 16 of the 1934 Act establishes reporting requirements concerning insider trading, such as beneficial ownership filings for officers, directors and 10% holders.

[4] For a history of the development of these reporting requirements, see Earl C. Keller and Jerry Arnold, "The SEC's Disclosure System: Its Objectives, Its Evolution and Its Future" in *A Profession in Transition: The Ethical and Legal Responsibilities of Accountants*, Chicago: DePaul University, 1988 School of Accountancy Research Symposium proceedings.

Exemptions from 1934 Act Requirements. Until 1964, registration and reporting requirements under the 1934 Act applied only to classes of securities listed on a national exchange, or to issuers who had sold securities under the 1933 Act, if the number of holders of such securities exceeded 300. In 1964, the act was amended to cover all issuers with a class of equity securities held by 500 or more persons and more than $1 million in total assets.

There is a long history of concern for the impact of disclosure requirements on small businesses. In 1977, the SEC's Advisory Committee on Corporate Disclosure suggested that a review of 1934 Act requirements should be made as "compliance may be unduly expensive" for smaller public companies and "a reduction in 1934 Act disclosure obligations might be achieved without an adverse effect on disclosure to investors."[5]

In response to this recommendation, the SEC held a series of hearings on small business capital formation and the impact of disclosure requirements on small businesses. Following these hearings, the SEC established the Office of Small Business Policy in the Division of Corporation Finance in order to coordinate efforts to review possible options for changes in registration and reporting requirements as they apply to small businesses, to liason with other government agencies concerned about small business, and to represent small business concerns in SEC rule making activities. Initially, efforts at regulatory relief for small businesses focused on the 1933 Act, including (1) increasing the dollar ceiling for securities sold under Regulation A, (2) developing the simplified registration Form S-18 for smaller issues, and (3) adopting Regulation D. There was less focus on regulatory relief from requirements for registration and reporting under the 1934 Act, although the total assets limit was raised to $3,000,000 and there were various efforts towards an integrated disclosure program which would simplify reporting and reduce costs.

In July, 1986, the SEC amended several rules to increase the total assets threshold for mandatory registration and reporting under Section 12(g) of the 1934 Act from $3 million to $5 million.[6] The current rules

[5] *Report of the Advisory Committee on Corporate Disclosure to the SEC*, submitted to the House Committee on Interstate and Foreign Commerce, Committee Print 95-29, 95th Congress, 1st Session, 1977, p. 512.

[6] Securities and Exchange Commission Releases No. 33-6652, 34-23406, 39-2022 (July 8, 1986).

require registration and reporting only if the company has more than 500 security holders and more than $5 million in total assets. Once entered into the system, registrants may become exempted from reporting requirements if they have fewer than 500 record holders and assets have not exceeded $5 million for the last three fiscal years (rule 12(g)-4). Additionally, registrants may be relieved of reporting requirements if they have fewer than 300 shareholders of record, regardless of assets.

When the threshold rules were liberalized, the SEC also called for information and suggestions concerning possible substitute or supplementary threshold criteria governing entry into and exemption from the 1934 Act reporting requirements.[7]

Regulatory Relief Efforts as Public Policy

The efforts of the Securities and Exchange Commission to reduce reporting costs for small businesses are consistent with the thrust of current federal public policy. As was stated in *The State of Small Business: A Report of the President* transmitted to Congress in 1982, relief of regulatory burden on small businesses is a public policy goal:[8]

> The fundamental tenets of small business policy are thus quite clear. Government should promote a strong, vibrant private economy with policies that primarily rely upon free market forces to organize and allocate our economic resources. . . . Federal impediments to the free and efficient use of resources must be reduced or eliminated.

The justification of this call for regulatory relief is based on cost-benefit arguments:[9]

> Regulatory relief is needed to reduce unnecessary costs imposed by government. Government regulations, including paperwork, have become a major source of market interference, reducing competition and efficiency within most industries. Moreover, regulations often have disproportionately adverse effects on small businesses, and the result is all too

[7] Securities and Exchange Commission Release No. 34-23407 (July 9, 1986).

[8] *The State of Small Business: A Report of the President*, U. S. Government Printing Office, March 1982, p. 5.

[9] *Ibid* p. 6.

frequently an impaired ability of small businesses to compete effectively.

Problems in Assessing Cost-Benefit Arguments

It is difficult to evaluate the merits of a cost-benefit justification for regulatory relief of small businesses. To begin with, it is a formidable task to develop a working definition of "small business". Second, it is difficult to quantify the costs of compliance with regulations, as the costs are both direct and indirect. Finally, it is even more difficult to quantify the benefits of regulations as the benefits involve attainment of social as well as economic objectives. The resulting dilemma was recognized in the 1982 *Report of the President to Congress*:[10]

> The problem is a particularly difficult one. On the one hand, regulations frequently address important social objectives which cannot be dismissed lightly. On the other hand, their application to small business is frequently of only marginal importance to the social objectives involved, or they are applied in ways which are inappropriate in a small business context.

Thus, there are three important broad questions to ask when considering regulatory relief for small businesses: ***(1) What is a small business? (2) What are the costs of regulation?*** and ***(3) What are the benefits of regulation?*** Raising these questions does not imply that clear-cut answers are expected, or even possible. These are, after all, the kind of questions that, in the words of Laurence J. Peter, are "so complex that it takes high intelligence just to be undecided about them." But, even if definitive answers elude us, contemplating these three questions has distinct advantages. First, it helps to clarify the factors that should be considered in policy decisions, which must be made even in the absence of complete answers to these questions. Second, the more we examine these three broad questions, the more likely we are to discover ancillary questions which might be answerable.

The next three sections provide brief discussions of the nature of these three broad questions. The primary goal of this research project is to address several ancillary questions concerning the definition of "small business" when the term is applied to public companies. The ultimate

[10] *Ibid.*, page 13.

goal of such research is to devise a reasonable, reliable operating definition of small public companies. The development of a reliable operating definition of "small public company" is a prerequisite to continued efforts to measure the costs and benefits of regulation. The final section of the chapter describes the specific objectives of the research.

What is a Small Business?

Public Companies Compared to All U. S. Corporations. U. S. businesses can operate under a variety of forms, including sole proprietorships, partnerships and corporations. There are about 3.2 million business corporations in the United States today. In comparison, public companies of all types — e.g. publicly held corporations, limited partnerships, and trusts — comprise less than 15,000 companies.

The 1984 IRS Statistics of Income provide a picture of the size distribution of all U. S. corporations based on total assets. According to these statistics, over 90% of U. S. corporations have less than $1 million of total assets. In contrast, it is extremely rare for a company that has less than $1 million of assets to trade on the New York or American Stock Exchange or as part of the over-the-counter NASDAQ National Market System.

Even the smallest New York Stock Exchange, American Stock Exchange, and National Market System companies are larger than over 98% of U. S. corporations. Moreover, as can be seen in Table 1-1 below, for a sample of over 10,000 public companies, less than 10% of the non-NMS NASDAQ companies and less than a third of other public companies fail into the under $1 million asset category. In contrast, consider the other end of the asset size spectrum. Even though they constitute less than one-half of one percent of all corporations, public companies make up over half of the largest firms in the country — those with assets of $100 million or more.

Table 1-1

COMPARISON OF SIZE BASED ON TOTAL ASSETS: ALL U.S. CORPORATIONS VERSUS A LARGE SAMPLE OF PUBLIC COMPANIES

	TOTAL ASSETS (in millions)				
	< $1	$1-$10	$10-$50	$50-$100	$100+
All U.S. corporations	91.3%	7.3%	1.0%	0.2%	0.2%
Public companies:					
New York Stock Exchange	*	0.2%	3.3%	7.7%	88.7%
American Stock Exchange	*	6.4%	42.8%	18.8%	32.1%
National Market System	*	10.0%	36.5%	14.4%	39.0%
Non-NMS NASDAQ	7.9%	60.1%	20.2%	3.0%	9.0%
Other	31.8%	22.5%	13.8%	6.6%	25.3%

Note: Data on all U.S. corporations is from the 1984 IRS Statistics of Income (*SOI Bulletin*, volume 6 #4, Spring 1987, page 81). Data on public companies is compiled from a sample of 10,440 companies taken from the January 1987 Disclosure II database. An asterisk (*) indicates less than 0.1%.

The Definition of a Small Business. What is a small business? Clearly, there is no simple answer to this question. Most public companies are large in comparison to most private companies, but there are enough exceptions to the rule to make the public-private demarcation only a rough surrogate for size.

The call for regulatory relief from the Securities Acts clearly implies that at least some public companies should be considered small businesses. But how should the concept of "small business" be defined when applied to public companies? Should, for example, total assets be used as a measure of size? There is a wide variation in average asset sizes between

industries. For instance, manufacturing businesses generally would be expected to have a greater investment in assets than service businesses. Moreover, it is not clear that total assets is the best measure of size even within an industry. Other criteria, such as number of employees or net sales, or market value of the company are also possible indicators of size.

Ancillary Questions. What are the pros and cons of the possible measures of size? How are the different measures related to each other? How much variation is there between industries on these size measures? How many public companies would be considered small under each of the possible measures? These are but a few of the ancillary questions which arise when an operational definition of "small public company" is attempted.

What Are The Costs Of Regulation?

Direct Costs. Financial disclosure always carries a cost. The most obvious cost is the direct cost of providing the disclosures. A 1986 estimate put the cost of complying with the continuing reporting requirements of the 1934 Act at $100,000 or more annually for a small public company.[11]

In 1977, the Advisory Committee on Corporate Disclosure published the results of a staff study on the cost of preparation of registration statements and periodic reports.[12] Twenty-two companies provided estimates of the incremental costs related to preparing and assembling documents they had filed with the SEC during 1975. Follow-up interviews with key corporate officials were used to insure that the proper estimation procedure had been followed. Based on these interviews, any necessary adjustments were made to insure that the data from all 22 companies were comparably computed.

Several findings of the Advisory Committee study provide interesting information on the costs of complying with continuing reporting requirements:

[11] Sanford L. Jacobs, "Taking it to the Street: Going public can mean debt-free financing, but there are other costs to consider", *The Wall Street Journal*, May 19, 1986, page 31D.

[12] *Report of the Advisory Committee on Corporate Disclosure*, House Committee on Interstate and Foreign Commerce, Committee Print 95-29, November 3, 1977. See pages 22-28 and the related appendices.

1) For the 22 company sample, the average (mean) incremental costs of assembling and preparing certified end-of year financial statements was $357,710, of which 59% was the audit fee. The comparable median figures, which may be more representative as the cost distribution was skewed, were $165,500 and 67%. The range of costs was from a low of $14,400 to a high of $1,700,000.

2) The incremental costs of preparing, reviewing and distributing the annual report (exclusive of audit costs described above) ranged from $18,269 to $201,000, with a mean of $92,900 and a median of $63,690. The average incremental cost of preparing Form 10-K was $24,638 (median: $13,000); whereas Form 10-Q preparation costs averaged $2,624 (median: $1,550).

3) Twenty of the twenty-two firms filed an 8-K report during the year, at an average cost of $460 (median $800). Thirteen firms incurred costs for proxy solicitation, averaging $22,505 (median $15,200). The eight firms which reported costs of preparing a Form S-1 averaged $105,151 (median: $93,000). And nine firms reported average costs of $163,450 (median $182,384) to prepare Form S-7.

4) A breakdown of costs by size of firm revealed significant economies of scale. For example, for large firms with total assets greater than $1 billion, the average cost of preparing 10-K disclosure documents was only $2.41 per $100,000 of sales. For medium sized companies, with assets between $100 million and $1 billion, the average cost was $3.21 per $100,000 of sales. For small companies, with less than $100 million of assets, the average costs of preparing 10-K disclosures jumped to $121.41 per $100,000 of sales.

While these cost estimates were based on a small sample, the data from the Advisory Committee study were later used to generate macro-estimates of the extrapolated costs of disclosure for all 9,784 SEC-reporting companies in 1975. J. R. Zecher, who served as Chief Economist at the SEC from 1976 to 1978, discusses some of the findings of that research in a 1985 article in the Journal of Comparative Business and Capital Market Law.[13] In this research, the costs of an external audit and preparing the annual report to security holders were deemed to be for voluntary disclosures (i.e., likely to exist absent SEC requirements);

[13] J. Richard Zecher, "An Economic Perspective of SEC Corporate Disclosure", *Journal of Comparative Business and Capital Market Law*, vol. 7, #3/4, December, 1985.

the cost of filing SEC forms 10-K, 10-Q and 8-K were considered costs of mandatory disclosures. Given this definition of voluntary and mandatory disclosures, the study estimates the costs of disclosure and examines economies of scale by looking at costs as a percentage of total assets.

The results show economies of scale for both forms of disclosure, but the rise in costs as a percentage of assets is more dramatic for the mandatory disclosures. Large firms, with an average $2.6 billion in assets, paid 0.0362% of assets to make a year's voluntary (0.034% of assets) and mandatory (0.0022% of assets) disclosures. Medium sized firms, with assets averaging $268 million, paid 0.1703% of assets (0.163% voluntary and 0.0073% mandatory). Small firms, averaging $26 million in assets, paid 0.5343% of assets (0.462% voluntary, 0.0723% mandatory).

More recent smaller-scale studies have arrived at similar cost estimates. A. E. Osborne Associates studied a sample of 265 high technology public companies with total assets of under $15 million. The study estimated that the annual costs of filing 10-K and 10-Q reports for these companies was about $27,000.[14] Arthur D. Little, Inc. studied a diverse set of 13 public companies with sales ranging from $2.5 million to $23.1 million and employment ranging from 43 to 339 people. Their cost estimate for externally audited GAAP financial statements was about .5% of sales, with the cost of SEC reporting being about half that amount. They calculated that their results were comparable in magnitude to the Osborne Associates results.[15]

Costs per Shareholder. It might be even more informative to look at the direct costs of disclosure on a per shareholder basis. For example, consider the case of CPS Chemical Company, a company which manufactures, processes and distributes specialty chemicals. In its May, 1985, proxy statement, CPS Chemical complained about the burdensome cost of complying with 1934 Act disclosure requirements:[16]

[14] A. E. Osborne Associates, *An Estimate of Compliance Costs Under the Periodic Reporting Requirements of the Securities and Exchange Commission for Small High-Technology Companies*, January 1982.

[15] Arthur D. Little, Inc., *Financial Reporting Requirements of Small Publicly Owned Companies*, Financial Executives Research Foundation, November 1983.

[16] CPS Chemical Company, *Proxy Statement*, May 1, 1985, page 4.

> The company has operated as a public corporation since its only public offering of common stock in 1965. This has entailed substantial annual expenses, approximately $75,000 in 1984 principally for legal, accounting and printing services, plus management time, in respect of soliciting proxies, filing reports with the Securities and Exchange Commission (the "SEC") and furnishing detailed information to shareholders. Yet, in the 20 years the Company has been public it has not really benefited from its public status, by, for example, using its stock for acquisitions. Although there are shareholder benefits to retaining public reporting status, such as the availability of adequate public information and a trading market for the Company's stock, the Board believes that the expenses of remaining a public corporation are not justified by these benefits, particularly in light of the lack of market activity.

At the time, CPS Chemical Company traded as a NASDAQ over-the-counter stock. For the quarter ended June 30, 1984, the bids for its stock ranged from a low of 28 1/2 to a high of 30 1/2. For the fiscal year ended June 30, 1984, CPS Chemical reported total assets of $24.23 million. The $75,000 cost of compliance with regulatory requirements represented only 0.0031% of assets. By the standards of both the 1986 estimate of $100,000 annual compliance costs for small companies and the 1975 estimate of mandatory disclosure costs of 0.0723% of assets, CPS Chemical's disclosure costs seem reasonable. But, CPS Chemical Company had only 344 shareholders. Regulatory compliance costs averaged over $210 per shareholder. In comparison, the previously mentioned Osborne Associates study found an average compliance cost of $43 per shareholder for a sample of 265 small high technology firms.

Indirect Costs. There are also indirect costs to financial disclosures. For example, public companies may need to disclose information for the benefit of their stockholders which will also be useful to their competitors. If some of their competitors are privately held, the competitors may not need to disclose the same information. This could place the public company at a competitive disadvantage. This argument has sometimes been forwarded concerning required disclosure of segment information by public companies.

Crystal Tissue Company, a manufacturer of wrapping tissue, provides an illustration of the potential indirect costs of financial disclosures in its January 1985 proxy statement:[17]

> Since the tissue paper business is highly competitive, marketing strategies are crucial, and profit margins are difficult to maintain, the detailed financial and business information (including copies of material contracts) which Crystal is required to make publicly available as a reporting company can be used to the detriment of Crystal by competitors and in dealings and negotiations with suppliers and customers.

Costs of Regulatory Process Administration. Finally, the cost of the regulatory process itself must be considered. The operation of the Securities and Exchange Commission is a cost of regulation, borne by the American society. Litigation related to enforcement efforts is another cost of regulation.

Ancillary Questions. Once an operating definition of small public company is agreed on, several ancillary questions concerning the cost of regulation can be raised. What are the fixed and variable direct costs of mandatory disclosure for small public companies? What indirect costs of disclosure are borne by small public companies? Do small public companies bear a disproportionate share of the costs of regulation?

What Are The Benefits of Regulation?

The costs of disclosure must be balanced against the benefits. Public companies must accept some direct and indirect costs of disclosure in order to gain the benefit of the ability to raise funds in the capital markets.

Just as there are direct and indirect costs of disclosure, there are also direct and indirect benefits of disclosure. The benefits can accrue to the public company, its shareholders and potential shareholders, and, indirectly, to the non-investing public. The public company gains access to capital. The security holder or potential security holder gains information which can be useful for decision making, either through personal use or through reliance on a professional analyst. The regulatory process may

[17] Crystal Tissue Company, *Proxy Statement*, January 25, 1985. During 1983, Crystal Tissue had $30.4 million net sales, $17.7 million total assets, and 186 shareholders. Over-the-counter trading in Crystal Tissue stock, during the last quarter of 1983, was sporadic and limited, with prices ranging from a low of 41 to a high of 75.

also give current and potential security holders confidence in the market system, which in turn allows the market system to develop. To the extent that mandated disclosure contributes to stronger, more efficient markets, resource allocation will be improved. The resulting benefits for the economy extend to American society as a whole, including the non-investing public.

Direct Benefits. Much thought, research effort, and debate has been devoted to trying to determine the benefits, or lack of benefits, of mandated disclosure. Severe measurement problems make this an onerous task. For example, survey-based research on investors' use of mandated disclosures has produced many conflicting results over time. Among other things, survey research has found both that the majority of stockholders spend little or no time reading financial statements and that stockholders consider audited financial statements to be critical information for investment decisions.[18]

The most often cited research on the direct benefits of mandated disclosure to investors is the market-based research. The advantage of the market-based research paradigms is that these paradigms provide a clear focus for the measurement of benefits. According to these paradigms, mandated disclosure can benefit investors either by influencing their expectations about returns, or by influencing their assessments of risk. Any benefits should be observable in increased returns, with risk constant; or reduced riskiness, with returns constant.

In a pioneering study, Benston found a statistically significiant relationship between a set of financial disclosure variables and changes in stock prices, but argued that the effect was so small as to have no practical significance.[19] Similarly, Ball and Brown found a relationship between financial disclosures and stock price returns, but questioned its

[18] A 1986 Harris survey of 1,200 members of the general public asked "If you were making a decision on whether or not to buy stock, how much would you rely on financial publications? audited financial statements?" Two out of three respondents (67%) said they would rely on financial publications either some or a great deal. 74% would rely some or a great deal on audited financial statements. Of the 1,200 people surveyed, 500 were stockowners. Of the stockowners, 73% would rely some or a great deal on financial publications. 84% would rely some or a great deal on audited financial statements. Full results of the Harris survey are available from the American Institute of Certified Public Accountants.

[19] George J. Benston, "The Value of the SEC's Accounting Disclosure Requirements", *The Accounting Review*, July 1969, pages 515-532.

practical significance. The information contribution of the disclosure amounted to no more than ten to fifteen percent of price changes, with the marginal monthly rate of return from using the information being less than one percent.[20] Since reliable cost information was unavailable, these benefits could not be directly compared with costs.

These and other more recent market-based studies have been criticized on methodological and theoretical grounds,[21] and the studies are not without contradictions. But, in general, the market-based research has provided little empirical evidence of direct benefits to shareholders from mandated disclosures.

Indirect Benefits. The indirect benefits of regulation are even more difficult to measure than the direct benefits. One potential benefit of regulation is that the very presence of regulation maintains confidence in the markets, which allows the markets to flourish. The impetus for the adoption of the securities laws was the stock market crash of 1929 and the Great Depression. The markets may never have recovered without the confidence induced by the establishment of regulation. In recent years, the stock market has experienced some very significant short term fluctuations. In some cases, the magnitude of these changes has surpassed records set in the pre-Crash 1920s. How much of the ability of the market to recover from sharp fluctuations is due to investor confidence? How much of that confidence is due to the regulatory process?

Markets are human endeavors as well as economic phenomena. The capital asset pricing model and the efficient market hypothesis are powerful paradigms which provide a very good macro-level description of how the markets function. But macro level markets-based research is acausal. It can only tell us *if* the markets are efficient, not *why* the markets are efficient.

The market models and theories describe risk-return patterns, not market participants. For example, would the markets be efficient without financial analysts, or are professional analysts necessary for efficiency? Was the rise of a professional analysts group made possible by mandated disclosure,

[20] R. Ball and P. Brown, "An Empirical Evaluation of Accounting Income Numbers", *Journal of Accounting Research*, Autumn, 1968, pages 159-178.

[21] Some of the major criticisms are reviewed in Joel Seligman, "The Historical Need for a Mandatory Corporate Disclosure System", *Journal of Corporate Law*, volume 9, 1983.

which created more consistent disclosure patterns and centralized the collection of information? Is centralized information collection helpful for market functioning? How much benefit accrues to analysts and investors from ease of access to information?

Also, could the markets be efficient without the participation of individual investors? While institutional trading has become an increasingly important force in the markets, there is still a large amount of individual investor participation. The rate of individual investor participation in the markets has grown from 11.9% of Americans owning stock in a publicly traded company in 1975 to 13.5% in 1980 to nearly one in five (20.1%) by 1985.[22] Many individual investors do not own diversified portfolios. As of mid-1985, among the 6.8 million "new" individual investors — those who had invested money in publicly traded stocks for two years or less — almost two out of three (65.8%) owned only one stock issue. These new investors had a median portfolio value of $2,200. The remaining 40.2 million "veteran" investors had a median portfolio of $7,800; slightly over two in five (43.4%) owned only one stock.[23] How essential to market operations is the interplay between a large number of individual investors with relatively small, undiversified portfolios and a relatively smaller number of institutional investors with much larger diversified portfolios? If the participation of individual investors is important, how likely is individual participation in the absence of regulation? Given our pluralistic society, with its emphasis on individual rights, is individual investor participation in the markets a social benefit?

Questions about the indirect benefits of regulation are extremely difficult to answer. Measurement problems abound. The issue of confidence in the markets is particularly difficult to study, as it is conceivable that regulation creates investor confidence in the markets, regardless of whether investors directly use the mandated disclosures. Consider, as a somewhat analagous situation, the regulation of pharmaceuticals. Consumers may never directly read an FDA study. They may be unable to give an accurate description of what the FDA does. The FDA may have no direct impact on consumer decisions about whether to buy a particular available drug. But, the confidence instilled by the regulatory process may be an important contributor to consumers' willingness to purchase pharmaceuticals at all.

[22] *Shareownership 1985*. The New York Stock Exchange, 1986, page 3.

[23] Ibid., page 26.

Continuing Research Efforts. John Coffee, Jr., a Columbia University Professor of Law, has suggested that we are now entering a "post-revisionist" school of thought on the benefits of mandated disclosure:[24]

> First, there is an orthodox school, which tends to see historical events largely as a moral drama of good against evil. Next come the revisionists, debunking all and explaining that the good guys were actually the bad. Eventually, a new wave of more professional, craftsmanlike scholars arrives on the scene to correct the gross overstatements of the revisionists and produce a more balanced, if problematic, assessment.

Among the features Coffee suggests will be hallmarks of the next phase of research efforts is "a clearer sense of the difficulties inherent in relying on aggregate statistical evidence either to prove or rebut any broad thesis about the impact and effects of disclosure".[25] The complexities of the current market system, including the roles of various market participants, will need to be considered in efforts to analyze the benefits of disclosure. The real question is not whether the benefits of disclosure can exceed the costs. The fact that the U. S. markets are active and that initial public offerings continue to be made implies that the costs of disclosure, at least for those companies that now choose to be public, are not in excess of the benefits. The question is whether the costs of disclosure are at the optimum level: that level which allows the freest possible access to the markets while maintaining an adequate level of protection of shareholders. Can access to markets be maintained or improved and shareholder protection maintained while lowering the cost of disclosure?

THE RESEARCH OBJECTIVES

Objectives of the Study

The three broad questions discussed above — What is a small business? What are the costs of regulation? and What are the benefits of regulation? — are crucial to an examination of regulatory relief efforts. There is a natural order to the questions. An essential first step for rigorous study of small businesses and the 1934 Act is to develop a reasonable, reliable operating definition of the term "small business" as it

[24] John C. Coffee, Jr., "Market Failure and the Economic Case for a Mandatory Disclosure System", *Virginia Law Review*, volume 70 (1984), page 717.

[25] Ibid., page 719-720.

relates to public companies. As Arthur D. Little, Inc. pointed out in its study of small public companies, the lack of a reliable operating definition presents impediments to regulatory relief efforts[26]:

> One of the principal problems associated with establishing reporting thresholds or exceptions for small businesses is that of providing a useful, appropriate, and consistent definition of *small*.

The primary goal of this research study is to explore some alternative possible definitions of "small public companies". In particular, the study has three objectives:

(1) to develop descriptive data on SEC-reporting companies, based on various possible indicators of size;

(2) to determine how many public companies would be considered "small businesses" under various single criterion definitions of the term; and

(3) to examine the impact of using multiple criteria to define "small businesses" for public companies.

Chapter Two describes the study methodology, including the process used to develop descriptive data on SEC-reporting companies. Chapter Two also describes the size requirements and characteristics of the marketplaces as of the study date.

The next three chapters present profiles of SEC-reporting companies based on various single criterion definitions of "small public company." Chapter Three concentrates on financial statement measures of size. Chapter Four focuses on market indicators of size. Chapter Five explores other size indicators.

Chapter Six examines various possible multiple criteria definitions of the term "small public company". Chapter Seven summarizes the research objectives, method, and conclusions.

[26] Arthur D. Little, Inc., *op. cit.*, page 4-2.

CHAPTER TWO:
THE MARKETPLACES FOR PUBLICLY TRADED SECURITIES AND THE RESEARCH METHODOLOGY

The profiles of SEC-reporting firms, found in the next three chapters, are presented by marketplace, as well as in the aggregate. This is because one of the simplest initial indicators of a company's size is where the company's securities are traded. Therefore, the first part of this chapter provides an overview of the size requirements for trading on the national stock exchanges and in certain sub-sections of the over-the-counter market.

The second part of the chapter describes the research efforts to collect data on a large portion of the more than 14,000 SEC-reporting companies as of January, 1987. The first step in this research effort was to collect data which were accessible on computerized databases. This part of the research project provided data on more than 10,000 companies. The next step in the research was to gather equivalent data for a sample of SEC-reporting firms which were not available on a computerized database. Over 250 companies were included in the sample.

THE MARKETPLACES

One of the simplest initial indicators of the size of a company is information about where its securities are traded. Publicly-held companies may be traded on an organized exchange or over-the-counter (OTC). The exchanges are auction markets in which brokers bid or offer at successively higher or lower prices until a common price is reached and a trade is transacted. Trades are executed in an exchange on the trading floor. There are two primary exchanges, the New York Stock Exchange (NYSE) and the American Stock Exchange (AMEX), and several regional exchanges. Almost all exchange-listed stocks are listed on one of the two primary exchanges. The OTC securities market is a negotiated market. No trading floors exist. Prices are determined by dealers negotiating, usually by telephone/computer lines, with other dealers.

A certain amount of natural size grouping exists in the current market system due to differences in the minimum requirements for a security to be traded on the New York Stock Exchange, the American Stock Exchange, and as part of the over-the-counter market. These

requirements place a lower boundary on the size of companies by marketplace. However, the marketplace provides only a rough gauge of size because there are no maximum size limits.

The following sections briefly describe the minimum size requirements *as of December 31, 1986*, and some of the size characteristics of each of the marketplaces. For consistency, all references to size requirements are as of December 31, 1986, because the research study was based on 1986 data. However, the reader should be aware that entry and delisting size requirements change over time, and some changes in these requirements have occurred since 1986 (examples are provided later in the chapter).

The New York Stock Exchange

Initial Listing Requirements as of December 31, 1986. To be initially listed on the New York Stock Exchange, a company must have net tangible assets of at least $18 million; a market value of publicly held shares of at least $18 million; and at least 1.1 million publicly-held common shares. Additionally, the company must have either 2,000 holders of round-lots (at least 100 shares) or 2,200 stockholders and average monthly trading volume of 100,000 shares. Finally, listing companies must have demonstrated pretax earning power of either $2.5 million for the most recent year and $2 million for each of the two preceding years, or a total of $6.5 million of earnings over the past three years and a minimum of $4.5 million in the most recent year. Companies with securities trading on the New York Stock Exchange are also subject to other rules. For example, the NYSE will not accept non-voting common stock.

Delisting as of December 31, 1986. For companies that are already listed on the New York Stock Exchange, the Exchange will consider delisting the security whenever the market value drops below $5 million or the number of publicly-held shares drops below 600,000, or there are fewer than 1,200 round-lot holders.

Overview of Size of the Marketplace as of December 31, 1986. Whereas the above requirements place a minimum size boundary on NYSE stocks, there is no maximum and the largest NYSE companies significantly exceed the minimums. For example, at the end of 1986 AT&T had 2.8 million shareholders and IBM had a market value of over $74 billion.

Almost 1,600 companies had securities traded on the New York Stock Exchange as of the end of 1986. Trading volume in 1986 was 35.7 billion shares, with an associated dollar volume of $1.37 trillion. The turnover rate, which is the percent of outstanding shares changing hands, was 64% for 1986. A large portion of the trading volume is concentrated in a sub-group of the most active 250 issues, which accounted for approximately 60% of the total trading volume on the exchange over the last five years. The top 50 issues in 1986, 15 of which were utilities or oil and gas companies, provided 22% of the volume. Institutional trading is an important factor in market volume. Large block activity (trades involving 10,000 or more shares), which is an indicator of institutional activity, makes up about half the volume of shares traded on the NYSE. The average price of an NYSE security in 1986 was $36.89.

The American Stock Exchange

Initial Listing Requirements as of December 31, 1986. The minimum listing requirements for the American Stock Exchange are lower than those for the New York Stock Exchange. There is no total assets minimum, but stockholders' equity must be at least $4 million. The minimum market value of publicly held shares is $3 million for the American Stock Exchange, compared to $18 million for the New York Stock Exchange. Additionally, American Stock Exchange listing requires a minimum price per share of $3. The American Stock Exchange will consider initially listing a company if it has at least 500,000 publicly held shares, which is less than half the minimum required for initial NYSE listing. Whereas the New York Stock Exchange minimum for round-lot holders is 2,000 shareholders, the American Stock Exchange minimum is 800, which drops to 400 if public float is at least 1 million shares. The American Stock Exchange also considers trading activity, with a minimum required volume of 2,000 shares per day. Finally, the American Stock Exchange requires pretax income of at least $750,000 in the last year, or, alternatively, in two of the last three years.

Delisting as of December 31, 1986. Delisting will be considered if stockholders' equity drops below $2 million and the company has had net losses for two of the most recent three years. Delisting is also considered if stockholders' equity drops below $4 million and losses have been sustained for three of the four most recent years. A company sustaining losses for five consecutive years will always be considered for delisting.

Other AMEX minimums for continued listing of common stock include: 200,000 publicly held shares, $1 million market value of publicly held shares, and 300 round-lot holders.

Overview of Size of the Marketplace as of December 31, 1986. While the AMEX minimums are, in all cases, lower than the NYSE minimums, there is no maximum size limit for companies trading on the exchanges. Thus, one of the 1986 leaders on the American Stock Exchange, B.A.T. Industries Plc, with a market value of over $10 billion dollars at the end of 1986, would also have ranked among the top 5% of firms if listed on the New York Stock Exchange.

Over 850 companies had securities traded on the American Stock Exchange as of the end of 1986. Trading volume in 1986 was 2.98 billion equity shares, with an associated dollar volume of $43.4 billion. The turnover rate for 1986 was 40%. In 1986, the ten most active stocks accounted for 25% of the share volume. Large block activity (trades involving 10,000 or more shares), which is an indicator of institutional activity, makes up about 41% of the volume of shares traded. The average price of an American Stock Exchange security in 1986 was $12.97.

The Over-the-Counter Market

1987 estimates put the size of the over-the-counter market at upward of 30,000 securities, the bulk of which are not actively traded. The OTC market is regulated by the National Association of Securities Dealers (NASD), a statutory self regulatory organization which was established under the authority of the 1938 Maloney Act amendments to the Securities Exchange Act of 1934. The NASD counts among its membership virtually all broker-dealers who do securities business with the public.

OTC securities may be divided into two broad classes — those which trade as part of the National Association of Securities Dealers Automated Quotations System (NASDAQ) and those which do not (Other OTC). Within each of these categories, a second subdivision can be made. The four resulting groups of OTC securities differ primarily in level of trading activity.

NASDAQ Securities. The NASDAQ system began operating in 1971. It is operated by a subsidiary of the NASD. The NASDAQ system is a computerized network that electronically links brokers and dealers in the

United States and many other countries. The system provides the communication network for OTC trading in over 4,400 domestic and foreign securities. It receives, stores and transmits price and volume data and market statistics for the NASDAQ securities. A dealer can use the system to quickly see the bid and asked quotes of all brokers making a market in a particular security.

National Market System Securities. The most actively traded subset of NASDAQ securities have transactions reported on a real-time basis. These securities, numbering about 2,600 at the end of 1986, are part of the NASDAQ National Market System (NMS), which began operations in 1982. Reporting for NMS securities includes last sale reporting. Daily stock market quotation listings of NASDAQ stocks contain actual transaction information, similar to the information provided for exchange-listed stocks. Non-NMS NASDAQ stocks are reported on a bid and asked basis.

Requirements for NASDAQ System as of December 31, 1986. For a security to be part of the NASDAQ system, there must be at least two market makers and the security must be registered under Section 12(g) of the Securities Exchange Act of 1934 or the equivalent. The average NASDAQ security has more than eight market makers; the most active NASDAQ securities have more than five times the average number of market makers. To enter the NASDAQ system, stocks must also have at least 100,000 publicly held shares; at least $2 million in total assets; shareholders' equity of at least $1 million; and at least 300 shareholders. Removal from the system is considered if the number of shares or shareholders drops below these minimums, or if total assets drops below $750,000 or shareholders' equity drops below $375,000, or if there are no market makers.

Requirements for National Market System as of December 31, 1986. The requirements to become part of the NMS are more stringent than the general NASDAQ requirements. There are two tiers of NMS requirements. Companies meeting the Tier 1 requirements are automatically considered NMS securities. Companies which do not meet the Tier 1 requirements, but do meet the Tier 2 requirements, may apply to become NMS securities. The Tier 2 requirements include an alternative for established companies (alternative 1) and an alternative for development stage companies (alternative 2).

To meet Tier 1 requirements, the company must have net tangible assets of at least $2 million and shareholders' equity of at least $1 million. At least four dealers must act as market makers for the security. Trading volume must average 600,000 shares or more per month for the previous six months, and market value must be at least $5 million. There must be at least 500,000 publicly-held shares, not including those owned by directors and those owned by persons holding ten percent or more of the outstanding stock. Finally, there must be at least 300 shareholders of record and the share price must be at least $10.

To meet Tier 2 requirements under alternative 1, the company must have net income of at least $300,000 for the most recent year, or for two out of the most recent three years. Minimum total assets of $2 million, minimum shareholders' equity of $1 million, and at least 300 shareholders of record are required. At least two dealers must act as market makers for the security, as opposed to four dealers for the Tier 1 requirements. Market value must be at least $2 million, versus $5 million for Tier 1. There must be at least 350,000 publicly-held shares, which is 150,000 shares less than the Tier 1 minimum. Finally, the share price must be at least $3, compared to $10 for Tier 1.

There is also an alternative set of Tier 2 criteria to be part of the National Market System. This alternative set is provided for development stage companies. There are no mimumums for net income, share price or volume. However, the company must have an operating history of at least four years, and at least $8 million each of total assets, shareholders' equity and market value. A minimum of 300 shareholders of record and two market makers are also required.

Overview of Size of the Marketplace as of December 31, 1986. Trading volume for 1986 NASDAQ stocks was approximately 28.7 billion shares, of which 19.7 billion shares were NMS stocks. The 1986 dollar volume was $378.2 billion for all NASDAQ stocks. Institutional activity in NMS stocks accounts for about 42% of volume, as evidenced by large block trades. This is comparable to the level of large block trading on the American Stock Exchange. The average price of an NMS stock in 1986 was $15.82, which is greater than the average price of an American Stock Exchange security. The average price for a NASDAQ security was $9.95.

While many NASDAQ and NMS stocks are too small to be listed on the exchanges, there are some very large stocks in the group. For

example, Apple Computer is a NASDAQ/NMS stock. Apple Computer has assets of almost $1.3 billion, and its 1986 market value of $2.6 billion made it larger than almost all the stocks listed on the American Stock Exchange. As of the end of 1986, at least 700 of the 2,600 NMS securities met the size requirements for listing on the New York Stock Exchange. Over 1,800 of the NMS securities would have been eligible for listing on the American Stock Exchange.[1]

The range of sizes of NASDAQ securities is quite wide. Some of the smaller non-NMS NASDAQ securities are thinly traded. Institutional activity in these securities was minimal in 1986, but by 1988, there were increasing signs of institutional interest.[2] Many consider the smaller non-NMS NASDAQ issues to be relatively high risk, primarily due to the wide diversity of these issues. As Binkley Shorts, senior vice president of Wellington/Thorndike and portfolio manager of the OTC Securities Fund of Fort Washington, Pa., recently noted, "Small companies can be a mine field because there is a great disparity in the management talent. . . No one should make sizable investments in small companies without some knowledge of what they are buying."[3]

Other OTC Securities. There are many OTC stocks which do not meet NASDAQ trading requirements, or which meet the size requirements but do not choose to be part of the NASDAQ system. The non-NASDAQ stocks are generally less actively traded than the NASDAQ stocks. They include many penny stocks (stocks with prices less than $1) and stocks of closely held companies (some of which may be quite large) which trade very infrequently. Dealers trading in non-NASDAQ stocks are not bound by NASDAQ rules, such as the rule prohibiting "backing off" a bid (refusing to sell or buy at least 100 shares at a particular bid or ask price).

A sub-group of about 11,000 non-NASDAQ issues are known as pink-sheet stocks, because quotes for these stocks are reported to dealers once a day on the "Pink Sheets". Whereas exchange listing and NASDAQ quoting require issuer approval, issuer approval is not required for Pink Sheet reporting. The Pink Sheets are published by National Quotation

[1] The data on the number of NMS securities eligible for NYSE or AMEX listing is taken from Gordon S. Macklin, "A Primer on NASDAQ: The Market of the Future", in *The NASDAQ Handbook*, The National Association of Securities Dealers, 1987, page 25.

[2] Priscilla Ann Smith, "NASDAQ Investors Are Warned to Beware of 'Buckshot Buying' in Tiny, Hot Issues", *Wall Street Journal*, May 2, 1988, p. 45.

[3] Binkley Shorts, quoted in Priscilla Ann Smith, *ibid.*

Bureau Inc., a subsidiary of Commerce Clearing House, Inc. Dealers receive the Pink Sheets each morning either on paper or electronically through Quotron Systems, Inc. Quotations on non-NASDAQ stocks which are not listed on the Pink Sheets are not generally available, other than on a sporadic basis.

Most pink-sheet securities are thinly traded and many are not widely held. Some of the securities are of narrow interest, such as Mills Music Trust, which owns the rights to 169 Duke Ellington songs. However, the pink-sheet securities also include some more widely known companies, such as William Carter Co. (manufacturer of children's clothing), Manischewitz Co., and Hoffman-La Roche.

Trading in pink-sheets securities can be more risky than trading in exchange or NASDAQ securities. Partly, riskiness is influenced by the variety of quality of pink-sheet securities. Trading in pink sheet securities also involves greater risk of illiquidity — the inability to sell shares of thinly traded companies at will. Bid and asked prices provided by dealers do not guarantee that a particular volume of transactions can be carried out at those prices. As Lawrence Goldstein, a money manager formerly with Drexel Burnham Lambert, Inc., pointed out, transactions involve "person to person haggling", and, as a result, dealing in pink-sheet securities is "often like dealing in the private market."[4]

Changes in Marketplace Requirements

Whereas the above descriptions represent the marketplaces as of December 31, 1986, the relevant time period for this study, the reader should bear in mind that marketplace changes occur over time. For example, several recent changes have occurred for the NASDAQ and non-NASDAQ OTC marketplaces, including the elimination of "tiers" in the NASDAQ requirements.

In June, 1987, the NASD announced plans to automate price quotations for a subset of non-NASDAQ stocks. The new system was originally expected to be operational by the end of 1987 and to include about 8,600 non-NASDAQ issues then being reported on the Pink Sheets. After some delays, the system began testing in 1988, initially

[4] Lawrence J. Goldstein, quoted in William Power, "NASD to Launch Automated Quotes for 'Pink Sheets'", *Wall Street Journal*, May 9, 1988, p. 30.

including some 7,000 securities. Quotes on the automated "OTC Bulletin Board" system will be available throughout the day, as opposed to the current once-a-day quotes.

Also, as of August 1, 1988, the NASD began requiring firms trading in non-NASDAQ OTC securities to report, on a daily basis, price and volume information where the firm's trading volume in a security exceeds either 50,000 shares or $10,000. This data will be used as part of the NASD's market surveillance program. Other additions to NASD rules concerning pink-sheet securities trading include a rule that brokers must contact at least three dealers (or all dealers if there are fewer than three) to get the best prices on pink-sheet issues.

Summary of Minimum Size Requirements by Marketplace as of December 31, 1986.

Table 2-1, on the following page, summarizes the minimum size requirments for initial entry into each of the marketplaces as of December 31, 1986. Stocks may drop below these minimums without being delisted from the exchanges or removed from the NASDAQ or NMS systems, but the majority of stocks will usually meet or exceed these minimums.

Table 2-1

MINIMUM SIZE REQUIREMENTS FOR INITIAL ENTRY FOR NATIONAL EXCHANGES, NMS AND NASDAQ AS OF 12-31-86

	NEW YORK STOCK EXCHANGE	AMERICAN STOCK EXCHANGE	NATIONAL MARKET SYSTEM[1]	NASDAQ
Assets (in millions)	$18.0	—	$ 2.0 $ 2.0	$ 2.0
Shareholders' Equity (in millions)	—	$ 4.0	$ 1.0 $ 1.0	$ 1.0
Net income (in millions)	$ 2.5[2]	$ 0.75[3]	$ 0.30[3]	—
Market value (in millions)	$18.0	$ 3.0	$ 5.0 $ 2.0	—
Price per share (in dollars)	—	$ 3.00	$10.00 $ 3.00	—
Trading volume (in thousands of shares)	—	2/day	600/mo —	—
Number of publicly held shares (in thousands)	1,100	500	500 350	100
Round lot holders (in thousands)	2.0[4]	.8[5]	—[6] —[6]	—[6]
Market makers	—	—	4 2	2

Notes:

[1] Top number is Tier 1 requirement (mandatory inclusion), bottom number is Tier 2 requirement (voluntary inclusion), under alternative 1. For Assets, the Tier 1 requirement is for Tangible Assets, whereas the Tier 2 requirement is for Total Assets.

[2] Plus $2.0 million in each of the preceding two years, or $6.5 million total over the last 3 years, with at least $4.5 million in the most recent year.

[3] In most recent year, or two of the last three years.

[4] Or 2,200 stockholders plus an average monthly trading volume of 100,000 shares.

[5] Or 400 if public stock float is at least 1 million shares.

[6] Requires minimum of 300 shareholders of record.

RESEARCH METHODOLOGY

Data Collection

As of January, 1987, according to Securities and Exchange Commission records, there were approximately 14,700 SEC-reporting companies. Information on these companies is publicly available through microfiche and hard-copy reproductions of the SEC filings and through various computerized databases, such as Compustat, Value Line, and Disclosure II.

Two samples of SEC-reporting firms were developed. The first sample consisted of over 10,000 companies for which data were available on a computerized database. The second sample consisted of over 250 companies which were not part of the computerized database. Each of these samples is described below.

Companies With Data Available On Computerized Databases. As a first step in collecting the data, a review was made of the major publicly-available computerized databases for public company information. These databases are accessible through services which any individual or firm may subscribe to. Three of the major databases are:

(1) *The Compustat Database.* The Compustat database is distributed by Standard and Poor's Compustat Services, Inc. According to a 1984 survey, it is one of the two databases most often used by financial professionals.[5] Compustat is available to personal computer owners as part of the Warner Computer Systems. For 1986, Compustat contained information on between 6,000 and 7,000 public companies.

(2) *The Value Line Database.* The Value Line database is distributed by Value Line Data Services, which is part of Arnold Bernhard and Co. It was the second most frequently used database in the 1984 *Institutional Investor* survey. Value Line is available to anyone with a personal computer through the Compuserve system, which had over 100,000 subscribers in 1986. The Value Line database contains financial reports, ratios and forecasts for over 1,700 public companies. Stocks traded on exchanges are well covered; 95% of the dollar value of stocks traded on the exchanges is represented on the database.

[5] The survey was performed for *Institutional Investor*. Over 100 different databases were used by the respondents. The survey is cited in "Financial Accounting Databases: Methodological Implications of Using the Compustat and Value Line Databases", by M. Vasarhelyi and D. Yang, *First Boston Working Paper Series* number FB-86-30, revised May, 1986.

(3) *The Disclosure II Database*. The Disclosure II database is provided by Disclosure, Inc. According to the *Institutional Investor* survey, this was the third most popular database among financial professionals in 1984. The Disclosure II database is available to anyone with a personal computer via the Dow Jones News/Retrieval system, Compuserve, or Warner Computer Systems. There were over 300,000 subscribers to these three services in 1986. Disclosure II contains information on over 10,000 public companies.

There are many other computerized databases, but the above three are the most easily accessible. There are also a number of databases providing market information and a number of databases providing financial forecasts. These databases can be used to supplement the information obtained from the company information databases.[6]

Database Comparability and Accuracy. The comparability and accuracy of computerized data bases has been studied by several researchers.[7] Most recently, Vasarhelyi and Yang compared the annual reports of a large sample of companies against the information in the Compustat and Value Line databases. Their conclusions, which were consistent with previous research findings, were that signficant definitional variations between the databases exist, but that coding errors are low.[8] As an example of a definitional variation, Value Line reports a figure for Income Before Extraordinary Items which is net of (after) Discontinued Operations, whereas Compustat's Income Before Extraordinary Items figure is before

[6] For example, subscribers to the Compuserve system can access current stock quotes for 9,000 stocks and historical price quotes for over 50,000 stocks, bonds, mutual funds, government issues and options. Forecasts are available in several databases, including The Corporate Earnings Estimator database, the IBES database, and Value Line Forecasts. The Corporate Earnings Estimator, available on the Dow Jones System, provides consensus forecasts for approximately 3,000 widely followed public companies. The IBES system provides consensus analysts' forecasts on over 3,000 stocks and Value Line provides forecasts on approximately 1,700 stocks.

[7] See, for example, R. Bennin, "Error Rates in CRSP and Compustat: A Second Look", *The Journal of Finance*, December, 1980; B. Rosenberg and M. Houglet, "Error Rates in CRSP and Compustat Databases and Their Implications", *The Journal of Finance*, September, 1974; J. San Miguel, "The Reliability of R & D Data in Compustat and 10-K Reports", The Accounting Review, July, 1977; and M. Vasarhelyi and D. Yang, "Financial Accounting Databases: Methodological Implications of Using the Compustat and Value Line Databases", *First Boston Working Paper Series* number FB-86-30, revised May, 1986.

[8] Vasarhelyi and Yang, op. cit.

Discontinued Operations. The existence of significant definitional variations makes it difficult to combine data from the different databases without introducing large measurement errors. However, the relativly low coding error rates, which were in the 1% to 2% range, imply that within a single computerized database the information taken from SEC filings is very reliable.

Choice of a Database. The choice of a database for this project was based on a desire to use a single database with the broadest possible coverage of public companies. Because of the risk of introducing significant measurement errors due to definitional differences when databases are combined, it was preferable to use a single database. Because small companies are more likely than large companies to be omitted from computerized databases, it was desirable to use the broadest available database.

None of the computerized databases contain information on the complete set of SEC-reporting companies. As might be expected, the larger and more heavily-traded public companies are very well represented on the computerized databases, with less coverage of the smaller or the less actively traded companies. The review of the major computerized databases indicated that the Disclosure II database contained information on the largest number of public companies as of January, 1987.

As of January, 1987, the Disclosure II database contained information on 10,674 SEC-reporting companies. The database does not include real estate limited partnerships, management investment companies and oil and gas drilling funds. Certain smaller companies in all other areas are also excluded from the database. Consequently, a sample of companies excluded from the database was also examined. This supplemental sample of non-database companies is described in more detail later in this chapter.

Data were gathered for all public companies listed on the Disclosure II database as of January, 1987. The data were drawn from the most recent information filed with the Securities and Exchange Commission before January 1987. The data included financial statement information, such as total assets; market information, such as trading volume; and other information, such as number of employees.

For some of the financial data, such as total assets, the database contained information on all of the 10,674 companies. For other data,

such as trading volume, some of the company information is not available on the database. This is particularly true in the case of trading volume data for the companies in the Other category, where stocks are often thinly traded.

Furthermore, of the 10,674 companies, 234 are foreign companies which trade in the U. S. markets, but report financial results in non-U. S. currencies. Dollar-denominated financial statement information on these companies is not available, although dollar-denominated market data and other non-financial data are included on the database. Companies included on the Disclosure database which report in non-U.S. dollar denominated currencies were excluded from the study sample.

Thus, the number of usable data points for the database companies was generally less than the maximum possible 10,674, and differed between variables. The exact sample sizes for each of the variables is shown in the results chapters as part of the summary tables presented. The maximum sample size for the database companies was 10,440.

As of January, 1987, the Disclosure II database covered over 90% of Exchange companies, approximately 85% of NASDAQ companies and close to 60% of other SEC-reporting companies. It should be noted that the Disclosure database's classification of securities differs in some cases from the SEC classification. For example, the Disclosure database has categories for New York Stock Exchange and American Stock Exchange companies, but does not have a separate category for companies listed exclusively on other exchanges. The Disclosure database includes these companies in the "Other" category, which primarily consists of non-NASDAQ OTC securities.

These classification differences are described in more detail later in this chapter. Moreover, the database covers public companies over a recent time range, rather than at a specific date. Therefore, at any given date, there can be some companies included on the Disclosure database which are no longer independent public companies due to mergers, acquisitions or bankruptcies. These classification and timing differences affect a relatively small number of companies included in the database.

Companies With No Data Available On the Database. There were over 4,000 SEC-reporting companies which did not appear on the Disclosure II database as of January, 1987. This is partly a reflection of size and trading activity, but also partly a reflection of categories excluded from the database. Three types of companies generally are not accessible on the

Disclosure II database: (1) real estate limited partnerships; (2) management investment companies; and (3) oil and gas drilling funds.

In order to determine how the companies not included on the database compared with those companies which are on the computerized database, a series of samples covering exchange companies, NMS companies, non-NMS NASDAQ companies, and other companies was drawn.

The sampling frame for the exchange companies sample was a Securities and Exchange Commission list of exchange companies, after first removing the names of the companies included on the Disclosure II database. Because the database already covered over 90% of exchange companies, there was an opportunity to attempt a 100% sample of the exchange-listed companies which were not included on the database. Exclusive reliance on publicly available information sources, adjustment for classification differences, and elimination of foreign companies with non-U.S. dollar denominated financial statements reduced the exchange sample from the maximum possible 156 to 144.

The other samples — NMS companies, non-NMS NASDAQ companies, and Other companies — were drawn randomly from a Disclosure, Inc. alphabetical listing of the SEC-reporting companies as of December, 1986.[9] Random samples were drawn until information was obtained for 48 NMS companies, 38 non-NMS NASDAQ (NDQ) companies, and 38 Other (OTH) companies. In reaching these totals, companies were eliminated if they made no 1986 SEC filings or if they were foreign companies which presented their financial statements in non-U.S. currencies.

Data for the sample of non-database companies were primarily obtained by reviewing microfiche copies of 10-K, annual report and proxy filings made during 1986. Market volume, price data and SIC codes were obtained from other sources, such as Standard and Poor's and the Daily Stock Price Listing. Data on number of trades and number of days traded were obtained directly from the exchanges and the NASD.

[9] The SEC's lists of non-exchange companies were not separated into NMS, non-NMS NASDAQ and other OTC categories. The Disclosure listing included both the marketplace categorization and an asterisk next to companies not included in the database. Thus, random selection from the Disclosure list was considerably easier than random selection from the SEC list.

Classification Differences. While examining the data sources for the non-database companies sample, several types of marketplace classification differences were discovered. This discovery led to an investigation of classification differences between the Disclosure company listing and the SEC listing. To aid in this investigation, New York Stock Exchange, American Stock Exchange, and NASDAQ listings of companies at December 31, 1986 were used to validate the categorizations.

Two types of classification differences were discovered. The first type of classification difference relates to the Disclosure database's classification rules. For example, some classification differences arise because a company has multiple securities which trade in different marketplaces. For example, one company had equity securities traded on the New York Stock Exchange and debt securities traded on the American Stock Exchange. The SEC treats this company as an Exchange company. The Disclosure database has categories for New York Stock Exchange and American Stock Exchange companies, but does not have a combined Exchange category. The Disclosure database categorizes the multiple securities company as Other. This type of classification would be a permanent difference between the Disclosure categorization and the SEC categorization.

The second type of classification difference relates to marketplace changes. For example, suppose a company enters the NASDAQ system for the first time during the last quarter of 1986. The January 1987 Disclosure categorization may not yet reflect the change, still classifying the company as Other. The change in classification generally takes place on the Disclosure list when the next SEC report is filed, although in some cases the difference persists beyond the next filing date. These classification differences are timing differences only.

The classification of all exchange companies was cross checked between the SEC listing of exchange companies as of January 1987 and the Disclosure database January 1987 categorization. Exchange listings of New York Stock Exchange and American Stock Exchange companies were used for cross-validation when differences were found. Seven classification differences were discovered. In all cases, the companies had equity securities traded on the New York Stock Exchange as of December 31, 1986, but were included on the Disclosure database in a different category. Six were included on the database as Other due to classification

rule differences. One was included as non-NMS NASDAQ. All seven companies were reclassified as Exchange companies for the database samples in this study. They are treated as New York Stock Exchange Companies in all the database results tables.

Classification was cross-checked for a sample of 220 non-Exchange companies. Fifteen differences were found. More than half of these differences involved companies which first became part of NASDAQ in 1986. Other types of timing differences — for example, a non-NMS NASDAQ company which enters the National Market System during the year — also contribute to the classification differences. No reclassifications were made for these companies.

All classifications for the non-database companies sample were cross-checked. For the sample of non-database over-the counter companies, 13 (out of 124) were classified differently by Disclosure as of December 1986 than their December 31, 1986 marketplace. In all cases, the companies were classified by Disclosure as non-NMS NASDAQ, but were part of the National Market System as of December 31, 1986. To maintain comparability with the database companies results, these companies are reported in the results tables according to their Disclosure classification, i.e., as non-NMS NASDAQ. However, summary statistics are presented in two ways: (1) using the Disclosure classification, and (2) with the 13 companies reclassified according to their December 31, 1986 marketplace classification.

SIC Codes of Sample Companies. The tables on the following pages summarize the database and non-database samples by Standard Industrial Classification code. Tables 2-2 and 2-3 provide frequency distributions for the database companies. The first table divides the companies into Exchange, NASDAQ, and Other categories; the second table provides a breakdown into New York Stock Exchange (NYS), American Stock Exchange (AMS), National Market System (NMS), non-NMS NASDAQ (NDQ) and Other categories. Tables 2-4 and 2-5 present the relative percentage distributions for the database companies. Tables 2-6 to 2-9 provide comparable data for the non-database companies sample.

By comparing these tables, the areas excluded from the Disclosure database can be seen. For example, for the database companies, 7.2% are in mining and 24.3% have finance, insurance or real estate as their major line of business. However, for the sample of non-database companies, 12% are in mining and 71.7% have finance, insurance or real estate as their major line of business. This difference reflects the Disclosure database exclusion of real estate limited partnerships, management investment companies and oil and gas drilling funds.

Table 2-2

PRIMARY SIC CODES
Frequency Distributions for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

*Standard Industrial Classification.**

		TOTAL	EXCHANGE	NASDAQ	OTHER
Agriculture, Forestry, and Fishing	(0100-0999)	38	8	13	17
Mining	(1000-1499)	725	116	231	378
Construction	(1500-1799)	139	45	37	57
Manufacturing	(2000-3999)	3.324	973	1.399	952
Transportation, Communication, and Public Utilities	(4000-4999)	832	284	191	357
Wholesale Trade	(5000-5199)	494	103	171	220
Retail Trade	(5200-5999)	551	143	227	181
Finance, Insurance and Real Estate	(6000-6799)	2.447	254	731	1.462
Services	(7000-8999)	1.480	184	601	695
Public Administration/ Non-classifiable	(9000-9999)	46	6	4	36
TOTALS		10.076	2.116	3.605	4.355

*Note: The primary SIC Code indicates the company's major line of business in terms of net sales.

Table 2-3

PRIMARY SIC CODES
Frequency Distributions by Marketplace
Public Companies on Disclosure Database
January, 1987

*Standard Industrial Classification:**

		TOTAL	NYS	AMS	NMS	NDQ	OTHER
Agriculture, Forestry, and Fishing	(0100-0999)	38	5	3	6	7	17
Mining	(1000-1499)	725	70	46	52	179	378
Construction	(1500-1799)	139	24	21	26	11	57
Manufacturing	(2000-3999)	3.324	646	327	840	559	952
Transportation, Communication, and Public Utilities	(4000-4999)	832	243	41	128	63	357
Wholesale Trade	(5000-5199)	494	54	49	95	76	220
Retail Trade	(5200-5999)	551	98	45	158	69	181
Finance, Insurance and Real Estate	(6000-6799)	2.447	191	63	489	242	1.462
Services	(7000-8999)	1.480	107	77	294	307	695
Public Administration/ Non-classifiable	(9000-9999)	46	2	4	3	1	36
TOTALS		10.076	1.440	676	2.091	1.514	4.355

**Note*: The primary SIC Code indicates the company's major line of business in terms of net sales.

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Table 2-4

PRIMARY SIC CODES
Percentages for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

*Standard Industrial Classification:**

		TOTAL	EXCHANGE	NASDAQ	OTHER
Agriculture, Forestry, and Fishing	(0100-0999)	.4	.4	.4	.4
Mining	(1000-1499)	7.2	5.5	6.4	8.7
Construction	(1500-1799)	1.4	2.1	1.0	1.3
Manufacturing	(2000-3999)	33.0	46.0	38.8	21.9
Transportation, Communication, and Public Utilities	(4000-4999)	8.3	13.4	5.3	8.2
Wholesale Trade	(5000-5199)	4.9	4.9	4.7	5.1
Retail Trade	(5200-5999)	5.5	6.8	6.3	4.2
Finance, Insurance and Real Estate	(6000-6799)	24.3	12.0	20.3	33.6
Services	(7000-8999)	14.7	8.7	16.7	16.0
Public Administration/ Non-classifiable	(9000-9999)	.5	.3	.1	.8
TOTALS		100%	100%	100%	100%

**Note*: The primary SIC Code indicates the company's major line of business in terms of net sales.

Table 2-5

PRIMARY SIC CODES
Percentages by Marketplace
Public Companies on Disclosure Database
January, 1987

*Standard Industrial Classification.**

		TOTAL	NYS	AMS	NMS	NDQ	OTHER
Agriculture, Forestry, and Fishing	(0100-0999)	.4	.3	.4	.3	.5	.4
Mining	(1000-1499)	7.2	4.9	6.8	2.5	11.8	8.7
Construction	(1500-1799)	1.4	1.7	3.1	1.2	.7	1.3
Manufacturing	(2000-3999)	33.0	44.9	48.4	40.2	36.9	21.9
Transportation, Communication, and Public Utilities	(4000-4999)	8.3	16.9	6.1	6.1	4.2	8.2
Wholesale Trade	(5000-5199)	4.9	3.8	7.2	4.5	5.0	5.1
Retail Trade	(5200-5999)	5.5	6.8	6.7	7.6	4.6	4.2
Finance, Insurance and Real Estate	(6000-6799)	24.3	13.3	9.3	23.4	16.0	33.6
Services	(7000-8999)	14.7	7.4	11.4	14.1	20.3	16.0
Public Administration/ Non-classifiable	(9000-9999)	.5	.1	.6	.1	.1	.8
TOTALS		100%	100%	100%	100%	100%	100%

**Note*: The primary SIC Code indicates the company's major line of business in terms of net sales.

Table 2-6

PRIMARY SIC CODES
Frequency Distributions for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Standard Industrial Classification: *

		TOTAL	EXCHANGE	NASDAQ	OTHER
Agriculture, Forestry, and Fishing	(0100-0999)	3	2	0	1
Mining	(1000-1499)	28	23	3	2
Construction	(1500-1799)	6	5	0	1
Manufacturing	(2000-3999)	7	1	1	5
Transportation, Communication, and Public Utilities	(4000-4999)	7	2	2	3
Wholesale Trade	(5000-5199)	4	0	1	3
Retail Trade	(5200-5999)	1	0	1	0
Finance, Insurance and Real Estate	(6000-6799)	167	95	60	12
Services	(7000-8999)	10	4	3	3
Public Administration/ Non-classifiable	(9000-9999)	0	0	0	0
TOTALS		233	132	71	30

*Note: The primary SIC Code indicates the company's major line of business in terms of net sales.

Table 2-7

PRIMARY SIC CODES
Frequency Distributions by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Standard Industrial Classification

		TOTAL	NYS	AMS	NMS	NDQ	OTHER
Agriculture, Forestry, and Fishing	(0100-0999)	3	2	0	0	0	1
Mining	(1000-1499)	28	11	12	2	1	2
Construction	(1500-1799)	6	4	1	0	0	1
Manufacturing	(2000-3999)	7	1	0	1	0	5
Transportation, Communication, and Public Utilities	(4000-4999)	7	2	0	0	2	3
Wholesale Trade	(5000-5199)	4	0	0	0	1	3
Retail Trade	(5200-5999)	1	0	0	1	0	0
Finance, Insurance and Real Estate	(6000-6799)	167	61	34	37	23	12
Services	(7000-8999)	10	3	1	0	3	3
Public Administration Non-classifiable	(9000-9999)	0	0	0	0	0	0
TOTALS		233	84	48	41	30	30

Note: The primary SIC Code indicates the company's major line of business in terms of net sales.

Table 2-8

PRIMARY SIC CODES
Percentages for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

*Standard Industrial Classification:**

		TOTAL	EXCHANGE	NASDAQ	OTHER
Agriculture, Forestry, and Fishing	(0100-0999)	1.3	1.5	0	3.3
Mining	(1000-1499)	12.0	17.4	4.2	6.7
Construction	(1500-1799)	2.6	3.8	0	3.3
Manufacturing	(2000-3999)	3.0	.8	1.4	16.7
Transportation, Communication, and Public Utilities	(4000-4999)	3.0	1.5	2.8	10.0
Wholesale Trade	(5000-5199)	1.7	0	1.4	10.0
Retail Trade	(5200-5999)	.4	0	1.4	0
Finance, Insurance and Real Estate	(6000-6799)	71.7	72.0	84.5	40.0
Services	(7000-8999)	4.3	3.0	4.2	10.0
Public Administration/ Non-classifiable	(9000-9999)	0	0	0	0
TOTALS		100%	100%	100%	100%

**Note*: The primary SIC Code indicates the company's major line of business in terms of net sales.

Table 2-9

PRIMARY SIC CODES
Percentages by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

*Standard Industrial Classification.**

		TOTAL	NYS	AMS	NMS	NDQ	OTHER
Agriculture. Forestry. and Fishing	(0100-0999)	1.3	2.4	0	0	0	3.3
Mining	(1000-1499)	12.0	13.1	25.0	4.9	3.3	6.7
Construction	(1500-1799)	2.6	4.8	2.1	0	0	3.3
Manufacturing	(2000-3999)	3.0	1.2	0	2.4	0	16.7
Transportation. Communication. and Public Utilities	(4000-4999)	3.0	2.4	0	0	6.7	10.0
Wholesale Trade	(5000-5199)	1.7	0	0	0	3.3	10.0
Retail Trade	(5200-5999)	.4	0	0	2.4	0	0
Finance. Insurance and Real Estate	(6000-6799)	71.7	72.6	70.8	90.2	76.7	40.0
Services	(7000-8999)	4.3	3.6	2.1	0	10.0	10.0
Public Administration Non-classifiable	(9000-9999)	0	0	0	0	0	0
TOTALS		100%	100%	100%	100%	100%	100%

**Note* The primary SIC Code indicates the company's major line of business in terms of net sales.

Data Analysis

A review of the literature on small businesses produced ten possible measures of size, all of which have been suggested or used as the basis of regulatory relief. Four of the measures were financial statement indicators of size — total assets and total shareholders' equity from the Balance Sheet, and net sales and net income from the Income Statement. Four of the measures were market-based indicators of size — market value, share price, trading (share) volume, and trading activity (number of transactions/days traded). Two other indicators of size were also suggested — number of employees and number of shareholders.

Frequency distributions based on each of these size measures were developed. Separate frequency distributions were created for companies included on the Disclosure II database and for companies not included on the database. Each distribution is presented both in the aggregate and by three marketplace categories — (1) exchange-listed companies (2) NASDAQ over-the-counter companies; and (3) other companies, primarily less frequently traded "pink sheet" companies. A more detailed breakdown into five categories — (1) New York Stock Exchange (NYS); (2) American Stock Exchange (AMS); (3) National Market System (NMS); (4) non-NMS NASDAQ (NDQ); and (5) other — was also compiled.[10] These profiles provide the basis for a comparison of the companies not included on the database with the companies which are on the database. They also provide the basis for an exploration of the impact of various definitions of the term "small public company" on companies filing 1934 Act reports.

The next three chapters present and compare the descriptive profiles.

Correlation analyses of several subsamples of the data set are reported in Chapter Six. Given that the variables are not all highly correlated, it is unlikely that any single variable definition of "small public company" will be entirely satisfactory. Consequently, the data were also analyzed to determine the impact of some possible multiple criteria definitions of "small public company" on companies filing 1934 Act reports. The results from this analysis are presented in Chapter Six.

[10] In regard to the previously discussed differences between the Disclosure database and SEC classifications of companies, there would be fewer differences for the three-way Exchange, NASDAQ and Other breakdown than for the five-way breakdown.

CHAPTER THREE:
PROFILES BASED ON FINANCIAL STATEMENT INDICATORS OF SIZE

In order to study the differences between small and large public companies, or to adopt rules which provide regulatory relief for small public companies, it is necessary to define the term "small' as it applies to public companies. For either academic study or regulatory purposes, a quantitative definition of size will generally be preferred to a qualitative definition because a quantitative definition is less ambiguous. However, quantitative definitions are inevitably somewhat arbitrary. When considering possible quantitative definitions of size, it is helpful to consider qualitative issues when choosing the quantitative measures. Additionally, the use of multiple criteria definitions of size may be helpful in reducing arbitrariness.

This chapter, and the next two chapters, examine ten possible single criterion indicators of size for public companies. For each possible indicator of size, the advantages and disadvantages of the measure will be discussed, profiles of SEC-reporting companies based on the measure will be presented, and some summary statistics will be provided. The frequency distributions may be used to determine the number of public companies that would be considered 'small businesses' at various threshold levels of the single criterion size measures. The summary statistics provide a picture of the typical size of public companies and the extremes of the size range. Since the largest public companies are very large and the smallest development stage public companies are very small, most of the frequency distributions are skewed and contain some very extreme values in the tails. Thus, the best summary statistic for the distributions is the median. The fifth percentile and ninety fifth percentile for each of the distributions are also presented so that the sizes of the smallest companies, the largest companies and the median can be compared.

This chapter presents profiles for four possible financial statement indicators of size: total assets, shareholders' equity, net sales and net income.

TOTAL ASSETS

Advantages and Disadvantages

Total assets has frequently been used as a measure of size to "tier" regulation, i.e., to create differential requirements based on size. Total assets has been used to tier Federal Deposit Insurance Corporation regulations and National Credit Union Administration credit union reserve requirements. Total assets, in conjunction with number of shareholders, is also used as a measure of size by the Securities and Exchange Commission for current 1934 Act requirements.

One advantage of using total assets as an indicator of size is that it is a summary measure of the financial resources controlled by the firm. A second advantage is that a firm's total assets do not tend to fluctuate widely from year to year, as, for example, net income might. Relative stability is desirable in a quantitative definition of size because it minimizes problems due to firms' changing back and forth between the "small" and the "large" classifications.

The major disadvantage to the use of total assets as an indicator of size is that some industries, such as manufacturing industries, are more capital-intensive than other industries, such as service industries. If there is a wide variation of asset size between industries, the use of total assets as a measure of size will provide differential effects in capital intensive industries and labor-intensive industries. A second disadvantage of a total assets measure of size is that assets are reported in financial statements primarily on an historical cost basis. Assets with comparable current values which were acquired at different times may have very different historical costs. For example, two similar parcels of land purchased twenty years apart could have comparable current values but significantly different historical costs.

Profiles: Companies With Data Available On the Disclosure II Database

Total assets data were available for 10,440 companies on the Disclosure II database. Tables 3-1 and 3-2 on the following two pages present frequency distributions of total assets for these companies. Table 3-1 divides the sample into three groups — exchange companies, NASDAQ companies, and other companies. Table 3-2 divides the sample into five groups — New York Stock Exchange (NYS), American Stock

Exchange (AMS), National Market System (NMS), non-NMS NASDAQ (NDQ), and other companies. An additional set of tables (Tables 3-3 and 3-4, pages 50 and 51) present equivalent information in percentages rather than numerical frequencies.

Table 3-1

TOTAL ASSETS
Frequency Distributions for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Total Assets: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
$0-999	14	0	0	14
$1,000-99,999	622	0	16	606
$100,000-499,999	568	0	31	537
$500,000-999,999	405	1	76	328
$1,000,000-1,999,999	522	1	197	324
$2,000,000-4,999,999	968	10	509	449
$5,000,000-9,999,999	751	35	436	280
$10,000,000-19,999,999	847	107	470	270
$20,000,000-49,999,999	1,213	231	609	373
$50,000,000-99,999,999	894	238	348	308
$100,000,000-299,999,999	1,478	474	449	555
$300,000,000-499,999,999	457	174	111	172
$500,000,000-999,999,999	554	228	152	174
$1,000,000,000-4,999,999,999	823	408	201	214
$5,000,000,000 or more	324	211	44	69
TOTALS	10,440	2,118	3,649	4,673

* **Note:** Total Assets are total assets as of the last annual report date.

Table 3-2

TOTAL ASSETS
Frequency Distributions by Marketplace
Public Companies on Disclosure Database
January, 1987

Total Assets: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
$0-999	14	0	0	0	0	14
$1,000-99,999	622	0	0	1	15	606
$100,000-499,999	568	0	0	0	31	537
$500,000-999,999	405	1	0	0	76	328
$1,000,000-1,999,999	522	0	1	4	193	324
$2,000,000-4,999,999	968	3	7	47	462	449
$5,000,000-9,999,999	751	0	35	159	277	280
$10,000,000-19,999,999	847	8	99	285	185	270
$20,000,000-49,999,999	1,213	40	191	481	128	373
$50,000,000-99,999,999	894	111	127	302	46	308
$100,000,000-299,999,999	1,478	339	135	381	68	555
$300,000,000-499,999,999	457	139	35	91	20	172
$500,000,000-999,999,999	554	205	23	126	26	174
$1,000,000,000-4,999,999,999	823	386	22	179	22	214
$5,000,000,000 or more	324	209	2	41	3	69
TOTALS	10,440	1,441	677	2,097	1,552	4,673

*Note: Total Assets are total assets as of the last annual report date.

Table 3-3

TOTAL ASSETS
Percentages for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Total Assets: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
$0-999	.1	0	0	.3
$1,000-99,999	6.0	0	.4	13.0
$100,000-499,999	5.4	0	.8	11.5
$500,000-999,999	3.9	0	2.1	7.0
$1,000,000-1,999,999	5.0	0	5.4	6.9
$2,000,000-4,999,999	9.3	.5	13.9	9.6
$5,000,000-9,999,999	7.2	1.7	11.9	6.0
$10,000,000-19,999,999	8.1	5.1	12.9	5.8
$20,000,000-49,999,999	11.6	10.9	16.7	8.0
$50,000,000-99,999,999	8.6	11.2	9.5	6.6
$100,000,000-299,999,999	14.2	22.4	12.3	11.9
$300,000,000-499,999,999	4.4	8.2	3.0	3.7
$500,000,000-999,999,999	5.3	10.8	4.2	3.7
$1,000,000,000-4,999,999,999	7.9	19.3	5.5	4.6
$5,000,000,000 or more	3.1	10.0	1.2	1.5
TOTALS	100%	100%	100%	100%

*Note: Total Assets are total assets as of the last annual report date.

Table 3-4

TOTAL ASSETS
Percentages by Marketplace
Public Companies on Disclosure Database
January, 1987

Total Assets: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
$0-999	.1	0	0	0	0	.3
$1,000-99,999	6.0	0	0	0	1.0	13.0
$100,000-499,999	5.4	0	0	0	2.0	11.5
$500,000-999,999	3.9	.1	0	0	4.9	7.0
$1,000,000-1,999,999	5.0	0	.1	.2	12.4	6.9
$2,000,000-4,999,999	9.3	.2	1.0	2.2	29.8	9.6
$5,000,000-9,999,999	7.2	0	5.2	7.6	17.8	6.0
$10,000,000-19,999,999	8.1	.6	14.6	13.6	11.9	5.8
$20,000,000-49,999,999	11.6	2.8	28.2	22.9	8.2	8.0
$50,000,000-99,999,999	8.6	7.7	18.8	14.4	3.0	6.6
$100,000,000-299,999,999	14.2	23.5	19.9	18.2	4.4	11.9
$300,000,000-499,999,999	4.4	9.6	5.2	4.3	1.3	3.7
$500,000,000-999,999,999	5.3	14.2	3.4	6.0	1.7	3.7
$1,000,000,000-4,999,999,999	7.9	26.8	3.2	8.5	1.4	4.6
$5,000,000,000 or more	3.1	14.5	.3	2.0	.2	1.5
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Total Assets are total assets as of the last annual report date.

Profiles: Companies With Data Not Available on the Disclosure II Database

The next four tables, Tables 3-5 through 3-8, contain total assets frequency distributions for a sample of 266 companies with data not available on the January, 1987, Disclosure II database.

Table 3-5

TOTAL ASSETS
Frequency Distributions for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Total Assets: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
$0-999	2	1	0	1
$1,000-99,999	1	0	1	0
$100,000-499,999	7	2	0	5
$500,000-999,999	3	0	1	2
$1,000,000-1,999,999	4	1	2	1
$2,000,000-4,999,999	11	1	3	7
$5,000,000-9,999,999	7	1	2	4
$10,000,000-19,999,999	18	7	5	6
$20,000,000-49,999,999	38	20	14	4
$50,000,000-99,999,999	48	36	9	3
$100,000,000-299,999,999	65	42	21	2
$300,000,000-499,999,999	19	10	9	0
$500,000,000-999,999,999	21	14	6	1
$1,000,000,000-4,999,999,999	17	5	11	1
$5,000,000,000 or more	5	3	2	0
TOTALS	266	143	86	37

* **Note:** Total Assets are total assets as of the last annual report date.

Table 3-6

TOTAL ASSETS
Frequency Distributions by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Total Assets: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
$0-999	2	0	1	0	0	1
$1,000-99,999	1	0	0	0	1	0
$100,000-499,999	7	1	1	0	0	5
$500,000-999,999	3	0	0	0	1	2
$1,000,000-1,999,999	4	1	0	0	2	1
$2,000,000-4,999,999	11	1	0	0	3	7
$5,000,000-9,999,999	7	0	1	2	0	4
$10,000,000-19,999,999	18	3	4	1	4	6
$20,000,000-49,999,999	38	6	14	5	9	4
$50,000,000-99,999,999	48	18	18	8	1	3
$100,000,000-299,999,999	65	34	8	13	8	2
$300,000,000-499,999,999	19	9	1	8	1	0
$500,000,000-999,999,999	21	10	4	1	5	1
$1,000,000,000-4,999,999,999	17	3	2	8	3	1
$5,000,000,000 or more	5	3	0	2	0	0
TOTALS	266	89	54	48	38	37

*Note: Total Assets are total assets as of the last annual report date.

Table 3-7

TOTAL ASSETS
Percentages for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Total Assets: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
$0-999	.8	.7	0	2.7
$1,000-99,999	.4	0	1.2	0
$100,000-499,999	2.6	1.4	0	13.5
$500,000-999,999	1.1	0	1.2	5.4
$1,000,000-1,999,999	1.5	.7	2.3	2.7
$2,000,000-4,999,999	4.1	.7	3.5	18.9
$5,000,000-9,999,999	2.6	.7	2.3	10.8
$10,000,000-19,999,999	6.8	4.9	5.8	16.2
$20,000,000-49,999,999	14.3	14.0	16.3	10.8
$50,000,000-99,999,999	18.0	25.2	10.5	8.1
$100,000,000-299,999,999	24.4	29.4	24.4	5.4
$300,000,000-499,999,999	7.1	7.0	10.5	0
$500,000,000-999,999,999	7.9	9.8	7.0	2.7
$1,000,000,000-4,999,999,999	6.4	3.5	12.8	2.7
$5,000,000,000 or more	1.9	2.1	2.3	0
TOTALS	100%	100%	100%	100%

*Note: Total Assets are total assets as of the last annual report date

Table 3-8

TOTAL ASSETS
Percentages by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Total Assets: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
$0-999	.8	0	1.9	0	0	2.7
$1,000-99,999	.4	0	0	0	2.6	0
$100,000-499,999	2.6	1.1	1.9	0	0	13.5
$500,000-999,999	1.1	0	0	0	2.6	5.4
$1,000,000-1,999,999	1.5	1.1	0	0	5.3	2.7
$2,000,000-4,999,999	4.1	1.1	0	0	7.9	18.9
$5,000,000-9,999,999	2.6	0	1.9	4.2	0	10.8
$10,000,000-19,999,999	6.8	3.4	7.4	2.1	10.5	16.2
$20,000,000-49,999,999	14.3	6.7	25.9	10.4	23.7	10.8
$50,000,000-99,999,999	18.0	20.2	33.3	16.7	2.6	8.1
$100,000,000-299,999,999	24.4	38.2	14.8	27.1	21.1	5.4
$300,000,000-499,999,999	7.1	10.1	1.9	16.7	2.6	0
$500,000,000-999,999,999	7.9	11.2	7.4	2.1	13.2	2.7
$1,000,000,000-4,999,999,999	6.4	3.4	3.7	16.7	7.9	2.7
$5,000,000,000 or more	1.9	3.4	0	4.2	0	0
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Total Assets are total assets as of the last annual report date.

Summary: Total Assets as an Indicator of Size

The frequency distributions can be used to determine the number of study companies which would be termed "small" given a particular threshold. For example, using a threshold of $5 million in assets to define a "small public company", less than 30% of all study companies, but almost half of the "other" companies, would meet the criterion.

From the total assets profiles, it is easy to observe the strong natural size groupings of the marketplaces. For the companies included on the database, the median total assets for exchange companies is $274 million, compared to $22.5 million for NASDAQ companies and $5.9 million for other companies. Also, for the companies included on the database, the smallest New York Stock Exchange companies (as indicated by the 5th percentile of $62.2 million total assets) exceed the median company size for American Stock Exchange ($51.4 million), NMS ($58.6 million), NDQ ($5.0 million) and other companies ($5.9 million). It is also easy to observe that the natural size groupings exist only for the lower boundaries. Looking at the database companies, the 95th percentile for the NMS companies ($2.7 billion) and the other companies ($1.3 billion) is higher than the 95th percentile for either the American Stock Exchange ($752.1 million) or the non-NMS NASDAQ ($273.6 million) companies.

A somewhat similar pattern can be observed for the non database companies sample. Here, the 5th percentile for New York Stock Exchange companies is greater than the 5th percentile for American Stock Exchange, NMS, non-NMS NASDAQ and other companies. However, the median and the 95th percentile for National Market System companies exceed those of the Exchange companies.

How do the database and non-database companies compare? Compared at the 5th percentile or at the median, the non-database sample companies are larger than the database companies for all but the New York Stock Exchange and the 5th percentile for non NMS NASDAQ companies. Compared at the 95th percentile, the non-database sample of American Stock Exchange, NMS and non-NMS NASDAQ companies are larger than their database counterparts. This is partly due to the exclusion from the database of some large limited partnerships, such as Mesa Limited Partnership, a NYSE oil and gas limited partnership led by T. Boone Pickens, which has several billion dollars of assets.

Another way to compare the two sets of companies is to look at them in relation to summary statistics for all companies in a marketplace. At December 31, 1986, according to AMEX data, the median total assets for all American Stock Exchange companies was $56.4 million, compared to $51.4 million for the database companies and $57.6 million for the non-database sample. The skewing of the distribution of companies is also reflected in the difference between the median size of American Stock Exchange companies ($56.4 million) and the mean (average) total assets size of $266.1 million at December 31, 1986.

Table 3-9 on the following page provides total assets summary statistics at the 5th percentile, median and 95th percentile for the database companies and the non-database sample.

Table 3-9

SUMMARY STATISTICS: TOTAL ASSETS
(in millions of dollars)

	5th Percentile	Median	95th Percentile
Companies on Disclosure Database:			
New York Stock Exchange	62.2	649.1	16,675.9
American Stock Exchange	8.6	51.4	752.1
Exchanges	15.6	274.0	11,052.0
National Market System	6.8	58.6	2,652.2
non-NMS NASDAQ	0.8	5.0	273.6
NASDAQ	1.3	22.5	1,423.5
Other	0.01	5.9	1,323.7
Sample of Companies Not on Database:			
New York Stock Exchange	12.6	145.9	1,562.1
American Stock Exchange	9.2	57.6	998.6
Exchanges	11.2	92.0	1,256.0
National Market System *	11.5	186.6	4,238.1
non-NMS NASDAQ *	0.6	39.6	2,035.0
NASDAQ	2.9	119.6	3,378.2
Other	0.1	9.0	650.6

***Note:** The Disclosure list used as the sampling frame classified 13 of the sample companies as non-NMS NASDAQ which were part of the National Market System at December 31, 1986. If these companies were reclassified as NMS, the summary statistics would change as follows:

	5th Percentile	Median	95th Percentile
National Market System	8.7	191.9	4,136.4
non-NMS NASDAQ	1.1	32.9	655.2

SHAREHOLDERS' EQUITY

Advantages and Disadvantages

Shareholders' equity, or net worth, has been used by the Internal Revenue Service to tier regulations and by the Small Business Administration for loan eligibility determination.

The advantage of using shareholders' equity as a measure of size is that it is a summary measure of the shareholders' investment in the firm, including accumulated undistributed company earnings which have been reinvested in the business. Since the 1934 Act disclosures are directed chiefly towards shareholders, the amount of equity capital may be a relevant indicator of public company size.

The major disadvantage of using shareholders' equity to measure size is that the book value of equity capital represents the value at the time of issuance, which may not be reflective of current market value.

Profiles: Companies With Data Available On the Disclosure II Database

Shareholders' equity data were available for 10,435 companies on the Disclosure II database. Tables 3-10 to 3-13 on the following four pages present frequency distributions of shareholders' equity for these companies. The first table divides the sample into three groups — exchange companies, NASDAQ companies, and other companies. The second table divides the sample into five groups — New York Stock Exchange, American Stock Exchange, NMS, non-NMS NASDAQ (NDQ), and other. The third and fourth tables present the same information in percentages rather than numerical frequencies.

Table 3-10

SHAREHOLDERS' EQUITY
Frequency Distributions for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Shareholders' Equity: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Negative	836	59	98	679
Zero	14	0	0	14
$1-99,999	696	0	22	674
$100,000-299,999	379	2	46	331
$300,000-499,999	290	3	58	229
$500,000-999,999	479	5	175	299
$1,000,000-4,999,999	1,753	54	935	764
$5,000,000-9,999,999	977	114	495	368
$10,000,000-19,999,999	1,087	177	521	389
$20,000,000-49,999,999	1,253	336	589	328
$50,000,000-99,999,999	804	308	340	156
$100,000,000-199,999,999	601	244	201	156
$200,000,000-499,999,999	566	315	129	122
$500,000,000-999,999,999	290	199	24	67
$1,000,000,000-4,999,999,999	354	258	13	83
$5,000,000,000 or more	56	44	0	12
TOTALS	10,435	2,118	3,646	4,671

* **Note**: Shareholders' Equity is total shareholders' equity as of the last annual report date

Table 3-11

SHAREHOLDERS' EQUITY
Frequency Distributions by Marketplace
Public Companies on Disclosure Database
January, 1987

Shareholders' Equity: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Negative	836	30	29	7	91	679
Zero	14	0	0	0	0	14
$1-99,999	696	0	0	2	20	674
$100,000-299,999	379	0	2	3	43	331
$300,000-499,999	290	0	3	3	55	229
$500,000-999,999	479	0	5	11	164	299
$1,000,000-4,999,999	1,753	4	50	196	739	764
$5,000,000-9,999,999	977	11	103	299	196	368
$10,000,000-19,999,999	1,087	33	144	407	114	389
$20,000,000-49,999,999	1,253	147	189	523	66	328
$50,000,000-99,999,999	804	215	93	303	37	156
$100,000,000-199,999,999	601	214	30	186	15	156
$200,000,000-499,999,999	566	293	22	121	8	122
$500,000,000-999,999,999	290	194	5	24	0	67
$1,000,000,000-4,999,999,999	354	256	2	12	1	83
$5,000,000,000 or more	56	44	0	0	0	12
TOTALS	10,435	1,441	677	2,097	1,549	4,671

Note: Shareholders' Equity is total shareholders' equity as of the last annual report date.

Table 3-12

SHAREHOLDERS' EQUITY
Percentages for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Shareholders' Equity: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Negative	8.0	2.8	2.7	14.5
Zero	.1	0	0	.3
$1-99,999	6.7	0	.6	14.4
$100,000-299,999	3.6	.1	1.3	7.1
$300,000-499,999	2.8	.1	1.6	4.9
$500,000-999,999	4.6	.2	4.8	6.4
$1,000,000-4,999,999	16.8	2.5	25.6	16.4
$5,000,000-9,999,999	9.4	5.4	13.6	7.9
$10,000,000-19,999,999	10.4	8.4	14.3	8.3
$20,000,000-49,999,999	12.0	15.9	16.2	7.0
$50,000,000-99,999,999	7.7	14.5	9.3	3.3
$100,000,000-199,999,999	5.8	11.5	5.5	3.3
$200,000,000-499,999,999	5.4	14.9	3.5	2.6
$500,000,000-999,999,999	2.8	9.4	.7	1.4
$1,000,000,000-4,999,999,999	3.4	12.2	.4	1.8
$5,000,000,000 or more	.5	2.1	0	.3
TOTALS	100%	100%	100%	100%

*Note: Shareholders' Equity is total shareholders' equity as of the last annual report date.

Table 3-13

SHAREHOLDERS' EQUITY
Percentages by Marketplace
Public Companies on Disclosure Database
January, 1987

Shareholders' Equity: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Negative	8.0	2.1	4.3	.3	5.9	14.5
Zero	.1	0	0	0	0	.3
$1-99,999	6.7	0	0	.1	1.3	14.4
$100,000-299,999	3.6	0	.3	.1	2.8	7.1
$300,000-499,999	2.8	0	.4	.1	3.6	4.9
$500,000-999,999	4.6	0	.7	.5	10.6	6.4
$1,000,000-4,999,999	16.8	.3	7.4	9.3	47.7	16.4
$5,000,000-9,999,999	9.4	.8	15.2	14.3	12.7	7.9
$10,000,000-19,999,999	10.4	2.3	21.3	19.4	7.4	8.3
$20,000,000-49,999,999	12.0	10.2	27.9	24.9	4.3	7.0
$50,000,000-99,999,999	7.7	14.9	13.7	14.4	2.4	3.3
$100,000,000-199,999,999	5.8	14.9	4.4	8.9	1.0	3.3
$200,000,000-499,999,999	5.4	20.3	3.2	5.8	.5	2.6
$500,000,000-999,999,999	2.8	13.5	.7	1.1	0	1.4
$1,000,000,000-4,999,999,999	3.4	17.8	.3	.6	.1	1.8
$5,000,000,000 or more	.5	3.1	0	0	0	.3
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Shareholders' Equity is total shareholders' equity as of the last annual report date.

Profiles: Companies With Data Not Available on the Disclosure II Database

The next four tables, Tables 3-14 through 3-17, contain shareholders' equity frequency distributions for a sample of 262 companies with data not available on the Disclosure II database.

Table 3-14

SHAREHOLDERS' EQUITY
Frequency Distributions for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Shareholders' Equity: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Negative	2	0	0	2
Zero	0	0	0	0
$1-99,999	2	1	1	0
$100,000-299,999	4	2	0	2
$300,000-499,999	4	0	1	3
$500,000-999,999	3	1	1	1
$1,000,000-4,999,999	23	3	9	11
$5,000,000-9,999,999	21	8	8	5
$10,000,000-19,999,999	27	9	14	4
$20,000,000-49,999,999	54	27	25	2
$50,000,000-99,999,999	45	35	8	2
$100,000,000-199,999,999	39	29	10	0
$200,000,000-499,999,999	22	14	7	1
$500,000,000-999,999,999	12	11	1	0
$1,000,000,000-4,999,999,999	4	3	1	0
$5,000,000,000 or more	0	0	0	0
TOTALS	262	143	86	33

* **Note:** Shareholders' Equity is total shareholders' equity as of the last annual report date.

Table 3-15

SHAREHOLDERS' EQUITY
Frequency Distributions by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Shareholders' Equity: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Negative	2	0	0	0	0	2
Zero	0	0	0	0	0	0
$1-99,999	2	0	1	0	1	0
$100,000-299,999	4	1	1	0	0	2
$300,000-499,999	4	0	0	0	1	3
$500,000-999,999	3	1	0	1	0	1
$1,000,000-4,999,999	23	1	2	1	8	11
$5,000,000-9,999,999	21	4	4	5	3	5
$10,000,000-19,999,999	27	4	5	10	4	4
$20,000,000-49,999,999	54	9	18	12	13	2
$50,000,000-99,999,999	45	22	13	5	3	2
$100,000,000-199,999,999	39	23	6	7	3	0
$200,000,000-499,999,999	22	13	1	5	2	1
$500,000,000-999,999,999	12	8	3	1	0	0
$1,000,000,000-4,999,999,999	4	3	0	1	0	0
$5,000,000,000 or more	0	0	0	0	0	0
TOTALS	262	89	54	48	38	33

*Note: Shareholders' Equity is total shareholders' equity as of the last annual report date.

Table 3-16

SHAREHOLDERS' EQUITY
Percentages for Exchange, NASDAQ
and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Shareholders' Equity: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Negative	.8	0	0	6.1
Zero	0	0	0	0
$1-99,999	.8	.7	1.2	0
$100,000-299,999	1.5	1.4	0	6.1
$300,000-499,999	1.5	0	1.2	9.1
$500,000-999,999	1.1	.7	1.2	3.0
$1,000,000-4,999,999	8.8	2.1	10.5	33.3
$5,000,000-9,999,999	8.0	5.6	9.3	15.2
$10,000,000-19,999,999	10.3	6.3	16.3	12.1
$20,000,000-49,999,999	20.6	18.9	29.1	6.1
$50,000,000-99,999,999	17.2	24.5	9.3	6.1
$100,000,000-199,999,999	14.9	20.3	11.6	0
$200,000,000-499,999,999	8.4	9.8	8.1	3.0
$500,000,000-999,999,999	4.6	7.7	1.2	0
$1,000,000,000-4,999,999,999	1.5	2.1	1.2	0
$5,000,000,000 or more	0	0	0	0
TOTALS	100%	100%	100%	100%

*Note: Shareholders' Equity is total shareholders' equity as of the last annual report date.

Table 3-17

SHAREHOLDERS' EQUITY
Percentage by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Shareholders' Equity: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Negative	.8	0	0	0	0	6.1
Zero	0	0	0	0	0	0
$1-99,999	.8	0	1.9	0	2.6	0
$100,000-299,999	1.5	1.1	1.9	0	0	6.1
$300,000-499,999	1.5	0	0	0	2.6	9.1
$500,000-999,999	1.1	1.1	0	2.1	0	3.0
$1,000,000-4,999,999	8.8	1.1	3.7	2.1	21.1	33.3
$5,000,000-9,999,999	8.0	4.5	7.4	10.4	7.9	15.2
$10,000,000-19,999,999	10.3	4.5	9.3	20.8	10.5	12.1
$20,000,000-49,999,999	20.6	10.1	33.3	25.0	34.2	6.1
$50,000,000-99,999,999	17.2	24.7	24.1	10.4	7.9	6.1
$100,000,000-199,999,999	14.9	25.8	11.1	14.6	7.9	0
$200,000,000-499,999,999	8.4	14.6	1.9	10.4	5.3	3.0
$500,000,000-999,999,999	4.6	9.0	5.6	2.1	0	0
$1,000,000,000-4,999,999,999	1.5	3.4	0	2.1	0	0
$5,000,000,000 or more	0	0	0	0	0	0
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Shareholders' Equity is total shareholders' equity as of the last annual report date.

Summary: Shareholders' Equity as an Indicator of Size

The strong natural size groupings of the marketplaces are also apparent in the shareholders' equity profiles. For the companies included on the database, the median shareholders' equity for exchange companies is $100 million, compared to $9.9 million for NASDAQ companies and $1.3 million for other companies. Also, for the companies included on the database, at the 5th percentile only the exchange companies and NMS companies have positive shareholders' equity. The smallest non-NMS NASDAQ and other companies have a negative shareholders' equity. On the other hand, at the 95th percentile, the other companies on the database have a larger shareholders' equity ($298.7 million) than the NMS ($261.1 million), non-NMS NASDAQ ($35.6 million), or American Stock Exchange companies ($180.0 million).

For the non-database companies sample, the median shareholders' equity for exchange companies is $75.0 million, as compared to $100.0 million for the database companies. However, the non-database sample NASDAQ companies have a larger median ($24.5 million) than the database companies ($9.9 million). The non-database other companies ($3.2 million) are also larger at the median than their database counterparts ($1.3 million). Similar to the database companies, the 5th percentile for the non-database New York Stock Exchange companies is greater than the 5th percentile for American Stock Exchange, NMS, non-NMS and other companies. Only the other companies have a negative shareholders' equity at the 5th percentile for the non-database sample. At the 95th percentile, the pattern of size differences is complex. The database companies are larger than the non database companies only for the New York Stock Exchange and the other companies.

At December 31, 1986, according to AMEX data, the median shareholders' equity for all American Stock Exchange companies was $22.9 million, compared to $20.3 million for the database companies and $43.8 million for the non-database sample. This would indicate that the American Stock Exchange companies excluded from the database are relatively large. While this size difference was also observed for total assets, the magnitude of the difference is much greater for shareholders' equity. For all American Stock Exchange companies, the average shareholders' equity was $82.1 million at December 31, 1986.

Table 3-18 provides shareholders' equity summary statistics at the 5th percentile, median and 95th percentile for the database companies and the non-database sample.

Table 3-18

SUMMARY STATISTICS: SHAREHOLDERS' EQUITY
(in millions of dollars)

	5th Percentile	Median	95th Percentile
Companies on Disclosure Database:			
New York Stock Exchange	18.5	248.4	3,619.5
American Stock Exchange	0.5	20.3	180.0
Exchanges	4.1	100.0	2,746.0
National Market System	3.2	24.5	261.1
non-NMS NASDAQ	(0.1)	2.4	35.6
NASDAQ	0.4	9.9	187.2
Other	(1.4)	1.3	298.7
Sample of Companies Not on Database:			
New York Stock Exchange	8.3	107.9	788.3
American Stock Exchange	3.4	43.8	708.0
Exchanges	6.3	75.0	773.8
National Market System*	6.0	33.0	282.4
non-NMS NASDAQ*	0.3	22.5	236.6
NASDAQ	1.1	24.5	236.6
Other	(.2)	3.2	85.0

***Note:** The Disclosure list used as the sampling frame classified 13 of the sample companies as non-NMS NASDAQ which were part of the National Market System at December 31, 1986. If these companies were reclassified as NMS, the summary statistics would change as follows:

	5th Percentile	Median	95th Percentile
National Market System	4.2	no change	no change
non-NMS NASDAQ	1.1	15.2	82.0

NET SALES

Advantages and Disadvantages

Net sales, or revenues, has been used to tier regulations by the Environmental Protection Agency as part of its regulation of insecticides, fungicides and rodenticides; by the CAB for airline regulations; and by the Interstate Commerce Commission for trucking regulation.

The advantage of using net sales as a measure of size is that it represents the chief source of operating revenues of the company. Within a particular industry, net sales can proxy for market share.

According to the 1982 *Annual Report on Small Business and Competition of the Small Business Administration*, the major disadvantage of using net sales to measure size is that sales size categories may be too sensitive to price level changes to be stable size indicators:[1]

> The principal objection to the use of sales data is that sales size categories must be adjusted for inflation. Therefore a given sales size category that is currently considered a large business might not be judged to be a large business in the future.

Profiles: Companies With Data Available On the Disclosure II Database

Net sales data were available for 9,339 companies on the Disclosure II database. Tables 3-19 to 3-22 on the following pages present frequency distributions of net sales for these companies. The first table divides the sample into three groups — exchange companies, NASDAQ companies, and other companies. The second table divides the sample into five groups — New York Stock Exchange, American Stock Exchange, NMS, non-NMS NASDAQ (NDQ), and other. The third and fourth tables present the same information in percentages rather than numerical frequencies.

[1] *Annual Report on Small Business and Competition of the U. S. Small Business Administration*, reprinted in *The State of Small Business: A Report of the President*, U. S. Government Printing Office, 1982, p. 50.

Table 3-19

NET SALES
Frequency Distributions for Exchanges, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Net Sales. *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Less Than $1,000	8	0	0	8
$1,000-99,999	355	2	53	300
$100,000-499,999	510	3	162	345
$500,000-999,999	350	2	132	216
$1,000,000-1,999,999	422	5	164	253
$2,000,000-2,999,999	287	4	131	152
$3,000,000-4,999,999	448	16	202	230
$5,000,000-9,999,999	783	38	347	398
$10,000,000-19,999,999	942	89	442	411
$20,000,000-49,999,999	1,341	204	627	510
$50,000,000-99,999,999	972	251	473	248
$100,000,000-299,999,999	1,210	448	490	272
$300,000,000-499,999,999	466	231	136	99
$500,000,000-999,999,999	458	255	91	112
$1,000,000,000-4,999,999,999	623	427	47	149
$5,000,000,000 or more	164	137	0	27
TOTALS	9,339	2,112	3,497	3,730

*Note: Net sales is the most recent annual net sales. Related income figures are used where appropriate — for example, total lease income for a leasing company.

Table 3-20

NET SALES
Frequency Distributions by Marketplace
Public Companies on Disclosure Database
January, 1987

Net Sales: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Less Than $1,000	8	0	0	0	0	8
$1,000-99,999	355	1	1	3	50	300
$100,000-499,999	510	2	1	11	151	345
$500,000-999,999	350	1	1	12	120	216
$1,000,000-1,999,999	422	3	2	21	143	253
$2,000,000-2,999,999	287	1	3	18	113	152
$3,000,000-4,999,999	448	3	13	47	155	230
$5,000,000-9,999,999	783	4	34	142	205	398
$10,000,000-19,999,999	942	13	76	262	180	411
$20,000,000-49,999,999	1,341	38	166	469	158	510
$50,000,000-99,999,999	972	108	143	403	70	248
$100,000,000-299,999,999	1,210	292	156	438	52	272
$300,000,000-499,999 999	466	197	34	126	10	99
$500,000,000-999,999,999	458	234	21	89	2	112
$1,000,000,000-4,999,999,999	623	406	21	43	4	149
$5,000,000,000 or more	164	137	0	0	0	27
TOTALS	9,339	1,440	672	2,084	1,413	3,730

*Note: Net sales is the most recent annual net sales. Related income figures are used where appropriate — for example, total lease income for a leasing company.

Table 3-21

NET SALES
Percentages for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Net Sales: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Less Than $1,000	.1	0	0	.2
$1,000-99,999	3.8	.1	1.5	8.0
$100,000-499,999	5.5	.1	4.6	9.2
$500,000-999,999	3.7	.1	3.8	5.8
$1,000,000-1,999,999	4.5	.2	4.7	6.8
$2,000,000-2,999,999	3.1	.2	3.7	4.1
$3,000,000-4,999,999	4.8	.8	5.8	6.2
$5,000,000-9,999,999	8.4	1.8	9.9	10.7
$10,000,000-19,999,999	10.1	4.2	12.6	11.0
$20,000,000-49,999,999	14.4	9.7	17.9	13.7
$50,000,000-99,999,999	10.4	11.9	13.5	6.6
$100,000,000-299,999,999	13.0	21.2	14.0	7.3
$300,000,000-499,999,999	5.0	10.9	3.9	2.7
$500,000,000-999,999,999	4.9	12.1	2.6	3.0
$1,000,000,000-4,999,999,999	6.7	20.2	1.3	4.0
$5,000,000,000 or more	1.8	6.5	0	.7
TOTALS	100%	100%	100%	100%

*Note: Net sales is the most recent annual net sales. Related income figures are used where appropriate — for example, total lease income for a leasing company.

Table 3-22

NET SALES
Percentages by Marketplace
Public Companies on Disclosure Database
January, 1987

*Net Sales:**

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Less Than $1,000	.1	0	0	0	0	.2
$1,000-99,999	3.8	.1	.1	.1	3.5	8.0
$100,000-499,999	5.5	.1	.1	.5	10.7	9.2
$500,000-999,999	3.7	.1	.1	.6	8.5	5.8
$1,000,000-1,999,999	4.5	.2	.3	1.0	10.1	6.8
$2,000,000-2,999,999	3.1	.1	.4	.9	8.0	4.1
$3,000,000-4,999,999	4.8	.2	1.9	2.3	11.0	6.2
$5,000,000-9,999,999	8.4	.3	5.1	6.8	14.5	10.7
$10,000,000-19,999,999	10.1	.9	11.3	12.6	12.7	11.0
$20,000,000-49,999,999	14.4	2.6	24.7	22.5	11.2	13.7
$50,000,000-99,999,999	10.4	7.5	21.3	19.3	5.0	6.6
$100,000,000-299,999,999	13.0	20.3	23.2	21.0	3.7	7.3
$300,000,000-499,999,999	5.0	13.7	5.1	6.0	.7	2.7
$500,000,000-999,999,999	4.9	16.3	3.1	4.3	.1	3.0
$1,000,000,000-4,999,999,999	6.7	28.2	3.1	2.1	.3	4.0
$5,000,000,000 or more	1.8	9.5	0	0	0	.7
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Net sales is the most recent annual net sales. Related income figures are used where appropriate — for example, total lease income for a leasing company.

Profiles: Companies With Data Not Available on the Disclosure II Database

The next four tables, Tables 3-23 through 3-26, contain net sales frequency distributions for a sample of 259 companies with data not available on the Disclosure II database.

Table 3-23

NET SALES
Frequency Distributions for Exchanges, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Net Sales: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Less Than $1.000	6	2	1	3
$1.000-99.999	3	2	0	1
$100.000-499.999	9	2	1	6
$500.000-999.999	10	5	3	2
$1.000.000-1.999.999	13	3	4	6
$2.000.000-2.999.999	13	4	5	4
$3.000.000-4.999.999	19	12	5	2
$5.000.000-9.999.999	38	23	13	2
$10.000.000-19.999.999	46	32	12	2
$20.000.000-49.999.999	47	25	16	6
$50.000.000-99.999.999	16	9	7	0
$100.000.000-299.999.999	17	9	6	2
$300.000.000-499.999.999	10	2	7	1
$500.000.000-999.999.999	5	3	2	0
$1.000.000.000-4.999.999.999	6	3	3	0
$5.000.000.000 or more	1	1	0	0
TOTALS	259	137	85	37

*Note: Net sales is the most recent annual net sales. Related income figures are used where appropriate — for example, total lease income for a leasing company.

Table 3-24

NET SALES
Frequency Distributions by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Net Sales: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Less Than $1,000	6	0	2	0	1	3
$1,000-99,999	3	0	2	0	0	1
$100,000-499,999	9	1	1	0	1	6
$500,000-999,999	10	0	5	2	1	2
$1,000,000-1,999,999	13	1	2	1	3	6
$2,000,000-2,999,999	13	1	3	1	4	4
$3,000,000-4,999,999	19	6	6	2	3	2
$5,000,000-9,999,999	38	17	6	10	3	2
$10,000,000-19,999,999	46	22	10	6	6	2
$20,000,000-49,999,999	47	17	8	13	3	6
$50,000,000-99,999,999	16	5	4	3	4	0
$100,000,000-299,999,999	17	7	2	4	2	2
$300,000,000-499,999,999	10	1	1	4	3	1
$500,000,000-999,999,999	5	3	0	1	1	0
$1,000,000,000-4,999,999,999	6	2	1	1	2	0
$5,000,000,000 or more	1	1	0	0	0	0
TOTALS	259	84	53	48	37	37

*Note: Net sales is the most recent annual net sales. Related income figures are used where appropriate — for example, total lease income for a leasing company.

Table 3-25

NET SALES
Percentages for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Net Sales: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Less Than $1,000	2.3	1.5	1.2	8.1
$1,000-99,999	1.2	1.5	0	2.7
$100,000-499,999	3.5	1.5	1.2	16.2
$500,000-999,999	3.9	3.6	3.5	5.4
$1,000,000-1,999,999	5.0	2.2	4.7	16.2
$2,000,000-2,999,999	5.0	2.9	5.9	10.8
$3,000,000-4,999,999	7.3	8.8	5.9	5.4
$5,000,000-9,999,999	14.7	16.8	15.3	5.4
$10,000,000-19,999,999	17.8	23.4	14.1	5.4
$20,000,000-49,999,999	18.1	18.2	18.8	16.2
$50,000,000-99,999,999	6.2	6.6	8.2	0
$100,000,000-299,999,999	6.6	6.6	7.1	5.4
$300,000,000-499,999,999	3.9	1.5	8.2	2.7
$500,000,000-999,999,999	1.9	2.2	2.4	0
$1,000,000,000-4,999,999,999	2.3	2.2	3.5	0
$5,000,000,000 or more	.4	.7	0	0
TOTALS	100%	100%	100%	100%

*Note: Net sales is the most recent annual net sales. Related income figures are used where appropriate — for example, total lease income for a leasing company.

Table 3-26

NET SALES
Percentages by Marketplace
Public Companies Not on Disclosure Database
January, 1987

*Net Sales:**

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Less Than $1,000	2.3	0	3.8	0	2.7	8.1
$1,000-99,999	1.2	0	3.8	0	0	2.7
$100,000-499,999	3.5	1.2	1.9	0	2.7	16.2
$500,000-999,999	3.9	0	9.4	4.2	2.7	5.4
$1,000,000-1,999,999	5.0	1.2	3.8	2.1	8.1	16.2
$2,000,000-2,999,999	5.0	1.2	5.7	2.1	10.8	10.8
$3,000,000-4,999,999	7.3	7.1	11.3	4.2	8.1	5.4
$5,000,000-9,999,999	14.7	20.2	11.3	20.8	8.1	5.4
$10,000,000-19,999,999	17.8	26.2	18.9	12.5	16.2	5.4
$20,000,000-49,999,999	18.1	20.2	15.1	27.1	8.1	16.2
$50,000,000-99,999,999	6.2	6.0	7.5	6.3	10.8	0
$100,000,000-299,999,999	6.6	8.3	3.8	8.3	5.4	5.4
$300,000,000-499,999,999	3.9	1.2	1.9	8.3	8.1	2.7
$500,000,000-999,999,999	1.9	3.6	0	2.1	2.7	0
$1,000,000,000-4,999,999,999	2.3	2.4	1.9	2.1	5.4	0
$5,000,000,000 or more	.4	1.2	0	0	0	0
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Net sales is the most recent annual net sales. Related income figures are used where appropriate — for example, total lease income for a leasing company.

Summary: Net Sales as an Indicator of Size

Whereas the nondatabase sample companies were often comparable in size to the database companies based on balance sheet measures, they are noticeably smaller than their database counterparts when a net sales (revenues) size indicator is used. For all but the non-NMS NASDAQ companies, the 5th percentile, median and 95th percentiles for net sales are larger for the database companies than for the sample of non-database companies. In all cases, the most striking difference is the relative size of the other companies in relation to exchange and NASDAQ companies. Particularly for the smallest companies (using the 5th percentile as an indicator), the other companies tend to be very small in relation to the NASDAQ and exchange companies. For example, using a threshold of $3 million of net sales to define a small company, only about one in five of the study companies would be considered small. However, among the other companies, one out of every three database companies and 60% of the nondatabase sample companies would be deemed small.

Table 3-27 on the following page provides net sales summary statistics at the 5th percentile, median and 95th percentile for the database companies and the non-database sample.

Table 3-27

SUMMARY STATISTICS: NET SALES
(in millions of dollars)

	5th Percentile	Median	95th Percentile
Companies on Disclosure Database:			
New York Stock Exchange	52.1	582.0	8,199.0
American Stock Exchange	6.4	58.5	564.7
Exchanges	14.4	296.1	6,285.0
National Market System	4.7	55.2	584.4
non-NMS NASDAQ	0.1	4.6	97.2
NASDAQ	0.4	22.9	439.2
Other	0.05	9.6	914.4
Sample of Companies Not on Database:			
New York Stock Exchange	3.7	16.2	713.7
American Stock Exchange	0.1	9.8	242.6
Exchanges	0.8	13.5	637.2
National Market System*	1.0	24.6	493.6
non-NMS NASDAQ*	0.3	12.3	1,349.5
NASDAQ	0.9	18.7	577.8
Other	0.0	2.2	119.3

*__Note:__ The Disclosure list used as the sampling frame classified 13 of the sample companies as non-NMS NASDAQ which were part of the National Market System at December 31, 1986. If these companies were reclassified as NMS, the summary statistics would change as follows:

	5th Percentile	Median	95th Percentile
National Market System	no change	no change	no change
non-NMS NASDAQ	0.9	7.3	577.8

NET INCOME

Advantages and Disadvantages

Net income represents the profits a firm has earned during the financial statement period. Net income may also provide an indication of the extent to which a firm has funds available from operations for expansion, diversification or innovation. While net income is generally of great interest to shareholders, and is a good summary measure of the results of current operations, it tends to be less stable than total assets, shareholders' equity or net sales. This relative lack of stability is a significant disadvantage of using net income as an indicator of size.

Profiles: Companies With Data Available On the Disclosure II Database

Net income data were available for 10,065 companies on the Disclosure II database. Tables 3-28 to 3-31 on the following pages present frequency distributions of net income for these companies. The first table divides the sample into three groups – exchange companies, NASDAQ companies, and other companies. The second table divides the sample into five groups — New York Stock Exchange, American Stock Exchange, NMS, non-NMS NASDAQ (NDQ), and other. The third and fourth tables present the same information in percentages rather than numerical frequencies.

Table 3-28

NET INCOME
Frequency Distributions for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Net Income: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Loss	3,917	449	1,361	2,107
$0-999	80	0	1	79
$1,000-99,999	391	10	107	274
$100,000-199,999	241	15	94	132
$200,000-499,999	527	42	249	236
$500,000-999,999	582	51	275	256
$1,000,000-1,999,999	798	121	358	319
$2,000,000-2,999,999	447	92	199	156
$3,000,000-4,999,999	561	133	253	175
$5,000,000-9,999,999	698	240	299	159
$10,000,000-19,999,999	546	224	205	117
$20,000,000-49,999,999	555	250	173	132
$50,000,000-99,999,999	278	167	43	68
$100,000,000-499,999,999	364	258	17	89
$500,000,000-999,999,999	51	39	0	12
$1,000,000,000 or more	29	25	0	4
TOTALS	10,065	2,116	3,634	4,315

*Note: Net income is the most recent annual net income **after** extraordinary items and discontinued operations, if any.

Table 3-29

NET INCOME
Frequency Distributions by Marketplace
Public Companies on Disclosure Database
January, 1987

Net Income: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Loss	3,917	251	198	441	920	2,107
$0-999	80	0	0	0	1	79
$1,000-99,999	391	2	8	19	88	274
$100,000-199,999	241	3	12	23	71	132
$200,000-499,999	527	12	30	115	134	236
$500,000-999,999	582	9	42	160	115	256
$1,000,000-1,999,999	798	22	99	278	80	319
$2,000,000-2,999,999	447	33	59	162	37	156
$3,000,000-4,999,999	561	67	66	224	29	175
$5,000,000-9,999,999	698	152	88	264	35	159
$10,000,000-19,999,999	546	190	34	185	20	117
$20,000,000-49,999,999	555	223	27	165	8	132
$50,000,000-99,999,999	278	158	9	42	1	68
100,000,000-499,999,999	364	255	3	15	2	89
$500,000,000-999,999,999	51	39	0	0	0	12
$1,000,000,000 or more	29	25	0	0	0	4
TOTALS	10,065	1,441	675	2,093	1,541	4,315

*Note: Net income is the most recent annual net income **after** extraordinary items and discontinued operations, if any.

Table 3-30

NET INCOME
Percentages for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Net Income: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Loss	38.9	21.2	37.5	48.8
$0-999	.8	0	0	1.8
$1,000-99,999	3.9	.5	2.9	6.3
$100,000-199,999	2.4	.7	2.6	3.1
$200,000-499,999	5.2	2.0	6.9	5.5
$500,000-999,999	5.8	2.4	7.6	5.9
$1,000,000-1,999,999	7.9	5.7	9.9	7.4
$2,000,000-2,999,999	4.4	4.3	5.5	3.6
$3,000,000-4,999,999	5.6	6.3	7.0	4.1
$5,000,000-9,999,999	6.9	11.3	8.2	3.7
$10,000,000-19,999,999	5.4	10.6	5.6	2.7
$20,000,000-49,999,999	5.5	11.8	4.8	3.1
$50,000,000-99,999,999	2.8	7.9	1.2	1.6
$100,000,000-499,999,999	3.6	12.2	.5	2.1
$500,000,000-999,999,999	.5	1.8	0	.3
$1,000,000,000 or more	.3	1.2	0	.1
TOTALS	100%	100%	100%	100%

*Note: Net income is the most recent annual net income **after** extraordinary items and discontinued operations, if any.

Table 3-31

NET INCOME
Percentages by Marketplace
Public Companies on Disclosure Database
January, 1987

Net Income: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Loss	38.9	17.4	29.3	21.1	59.7	48.8
$0-999	.8	0	0	0	.1	1.8
$1,000-99,999	3.9	.1	1.2	.9	5.7	6.3
$100,000-199,999	2.4	.2	1.8	1.1	4.6	3.1
$200,000-499,999	5.2	.8	4.4	5.5	8.7	5.5
$500,000-999,999	5.8	.6	6.2	7.6	7.5	5.9
$1,000,000-1,999,999	7.9	1.5	14.7	13.3	5.2	7.4
$2,000,000-2,999,999	4.4	2.3	8.7	7.7	2.4	3.6
$3,000,000-4,999,999	5.6	4.6	9.8	10.7	1.9	4.1
$5,000,000-9,999,999	6.9	10.5	13.0	12.6	2.3	3.7
$10,000,000-19,999,999	5.4	13.2	5.0	8.8	1.3	2.7
$20,000,000-49,999,999	5.5	15.5	4.0	7.9	.5	3.1
$50,000,000-99,999,999	2.8	11.0	1.3	2.0	.1	1.6
$100,000,000-499,999,999	3.6	17.7	.4	.7	.1	2.1
$500,000,000-999,999,999	.5	2.7	0	0	0	.3
$1,000,000,000 or more	.3	1.8	0	0	0	.1
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Net income is the most recent annual net income **after** extraordinary items and discontinued operations, if any.

Profiles: Companies With Data Not Available on the Disclosure II Database

The next four tables, Tables 3-32 through 3-35, contain net income frequency distributions for a sample of 260 companies with data not available on the Disclosure II database.

Table 3-32

NET INCOME
Frequency Distributions for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

*Net Income:**

	TOTAL	EXCHANGE	NASDAQ	OTHER
Loss	39	17	9	13
$0-999	1	0	1	0
$1,000-99,999	8	3	1	4
$100,000-199,999	4	1	1	2
$200,000-499,999	9	2	6	1
$500,000-999,999	22	6	8	8
$1,000,000-1,999,999	22	6	12	4
$2,000,000-2,999,999	12	3	8	1
$3,000,000-4,999,999	22	8	13	1
$5,000,000-9,999,999	36	23	12	1
$10,000,000-19,999,999	36	28	6	2
$20,000,000-49,999,999	33	27	6	0
$50,000,000-99,999,999	10	9	1	0
$100,000,000-499,999,999	6	4	2	0
$500,000,000-999,999,999	0	0	0	0
$1,000,000,000 or more	0	0	0	0
TOTALS	260	137	86	37

*Note: Net income is the most recent annual net income **after** extraordinary items and discontinued operations, if any.

Table 3-33

NET INCOME
Frequency Distributions by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

*Net Income:**

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Loss	39	5	12	5	4	13
$0-999	1	0	0	0	1	0
$1,000-99,999	8	0	3	0	1	4
$100,000-199,999	4	1	0	0	1	2
$200,000-499,999	9	0	2	1	5	1
$500,000-999,999	22	1	5	6	2	8
$1,000,000-1,999,999	22	2	4	8	4	4
$2,000,000-2,999,999	12	1	2	4	4	1
$3,000,000-4,999,999	22	3	5	6	7	1
$5,000,000-9,999,999	36	15	8	9	3	1
$10,000,000-19,999,999	36	21	7	3	3	2
$20,000,000-49,999,999	33	25	2	4	2	0
$50,000,000-99,999,999	10	8	1	0	1	0
$100,000,000-499,999,999	6	2	2	2	0	0
$500,000,000-999,999,999	0	0	0	0	0	0
$1,000,000,000 or more	0	0	0	0	0	0
TOTALS	260	84	53	48	38	37

*Note: Net income is the most recent annual net income **after** extraordinary items and discontinued operations, if any.

Table 3-34

NET INCOME
Percentages for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Net Income: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
Loss	15.0	12.4	10.5	35.1
$0-999	.4	0	1.2	0
$1,000-99,999	3.1	2.2	1.2	10.8
$100,000-199,999	1.5	.7	1.2	5.4
$200,000-499,999	3.5	1.5	7.0	2.7
$500,000-999,999	8.5	4.4	9.3	21.6
$1,000,000-1,999,999	8.5	4.4	14.0	10.8
$2,000,000-2,999,999	4.6	2.2	9.3	2.7
$3,000,000-4,999,999	8.5	5.8	15.1	2.7
$5,000,000-9,999,999	13.8	16.8	14.0	2.7
$10,000,000-19,999,999	13.8	20.4	7.0	5.4
$20,000,000-49,999,999	12.7	19.7	7.0	0
$50,000,000-99,999,999	3.8	6.6	1.2	0
$100,000,000-499,999,999	2.3	2.9	2.3	0
$500,000,000-999,999,999	0	0	0	0
$1,000,000,000 or more	0	0	0	0
TOTALS	100%	100%	100%	100%

*Note: Net income is the most recent annual net income **after** extraordinary items and discontinued operations, if any.

Table 3-35

NET INCOME
Percentages by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Net Income: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
Loss	15.0	6.0	22.6	10.4	10.5	35.1
$0-999	.4	0	0	0	2.6	0
$1,000-99,999	3.1	0	5.7	0	2.6	10.8
$100,000 199,999	1.5	1.2	0	0	2.6	5.4
$200,000-499,999	3.5	0	3.8	2.1	13.2	2.7
$500,000-999,999	8.5	1.2	9.4	12.5	5.3	21.6
$1,000,000-1,999,999	8.5	2.4	7.5	16.7	10.5	10.8
$2,000,000-2,999,999	4.6	1.2	3.8	8.3	10.5	2.7
$3,000,000-4,999,999	8.5	3.6	9.4	12.5	18.4	2.7
$5,000,000-9,999,999	13.8	17.9	15.1	18.8	7.9	2.7
$10,000,000-19,999,999	13.8	25.0	13.2	6.3	7.9	5.4
$20,000,000-49,999,999	12.7	29.8	3.8	8.3	5.3	0
$50,000,000-99,999,999	3.8	9.5	1.9	0	2.6	0
$100,000,000-499,999,999	2.3	2.4	3.8	4.2	0	0
$500,000,000-999,999,999	0	0	0	0	0	0
$1,000,000,000 or more	0	0	0	0	0	0
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Net income is the most recent annual net income **after** extraordinary items and discontinued operations, if any.

Summary: Net Income as an Indicator of Size

For both the database and non-database companies, it is interesting to note that the smallest companies (the lowest five percent) in all categories experienced losses. Even the median for the database non-NMS NASDAQ companies was negative, as 920 of the 1,541 companies had losses. For any cutoff greater than zero in a net-income based size definition, the majority of non-NMS NASDAQ companies would have been considered "small". There is also a large percentage of other companies with losses. For the database companies, 48.8% of the other companies experienced losses in their most recent fiscal year; for the related nondatabase sample, 35.1% experienced a loss.

In part, the number of companies experiencing losses reflects development stage companies that have short operating histories and are not yet at the point of producing a profit. These companies would fit most intuitive concepts of "small public company". However, established companies experiencing current distress are also included among the negative income companies, and these companies might not be considered small by many observors. It would be difficult to distinguish between small companies and distressed companies using net income as the sole criterion to measure size.

These statistics illustrate the problems which would accompany the use of net income as a single criterion definition of size. Net income may be a useful supplementary measure of size, but its disadvantages outweigh its advantages as a single criterion size measure. Table 3-36 on the following page provides net income summary statistics at the 5th percentile, median and 95th percentile for the database companies and the non-database sample.

Table 3-36

SUMMARY STATISTICS: NET INCOME
(in millions of dollars)

	5th Percentile	Median	95th Percentile
Companies on Disclosure Database:			
New York Stock Exchange	(72.7)	18.4	443.7
American Stock Exchange	(0.01)	1.4	23.7
Exchanges	(47.0)	7.8	332.0
National Market System	(6.9)	2.0	34.1
non-NMS NASDAQ	(4.1)	(0.2)	3.9
NASDAQ	(5.4)	0.5	24.3
Other	(0.3)	0.0	35.5
Sample of Companies Not on Database:			
New York Stock Exchange	(2.7)	17.3	86.2
American Stock Exchange	(97.2)	2.5	97.8
Exchanges	(32.9)	9.9	88.3
National Market System*	(4.5)	2.9	39.3
non-NMS NASDAQ*	(2.0)	2.3	30.2
NASDAQ	(3.2)	2.6	32.5
Other	(2.8)	0.2	11.7

*Note: The Disclosure list used as the sampling frame classified 13 of the sample companies as non-NMS NASDAQ which were part of the National Market System at December 31, 1986. If these companies were reclassified as NMS, the summary statistics would change as follows:

	5th Percentile	Median	95th Percentile
National Market System	no change	3.0	no change
non-NMS NASDAQ	(.3)	1.1	10.8

CHAPTER FOUR:
PROFILES BASED ON MARKET-BASED INDICATORS OF SIZE

This chapter presents profiles for four possible market based indicators of size: share price, trading (share) volume, market value, and trading activity (number of transactions/days traded).

SHARE PRICE

Advantages and Disadvantages

Share price has been used as an indicator of size for initial exchange listing requirements and for entry into the NASDAQ/National Market System.

The advantage of using share price as a measure of size is that it represents the current value of a unit of a shareholder's investment.

The major disadvantage of using share price as an indicator of size is that current prices may not be available for thinly traded stocks. This is particularly problematic for the other OTC companies. A second disadvantage is that share price can be deliberately lowered by splitting a stock. Any size definition subject to easy manipulation is likely to have undesired consequences.

Another disadvantage of the use of share price as a size indicator is that temporary price fluctuations could affect a firm's size classification. For example, there is an established January effect in the stock market, wherein prices fall gradually at the end of a calendar year and then pick up more sharply during early January. The gradual December decline has been ascribed to year-end trading to manage tax losses or gains. In January, prices rebound more sharply as portfolios are reformulated over a shorter period in January than in December. If a size definition based on share price were linked to a company's year end, calendar year end firms would be more likely to experience shifts in share price than firms with other fiscal year ends. Also, stock prices tend to be more volatile for smaller, thinly traded issues, particularly for pink-sheet stocks, as was recently noted in *Business Week*:[1]

[1] Suzanne Woolley. "The Pain and Profit of Playing the 'Pinks' ". *Business Week*. July 11, 1988. p. 108.

Because of the thin float, Pink Sheet stocks are especially sensitive to publicity. "If you mention a stock in an article, the market goes crazy," says Walter Carucci of Carr Securities in New York. 'The stock may go up 25% to 30% just that day, and then prices may drop six months later."

Profiles: Companies With Data Available On the Disclosure II Database

Share price data were available for 7,098 companies on the Disclosure II database. The share prices are the closing or average prices for the shares as of the latest trade date. Tables 4-1 through 4-4 on the following pages present frequency distributions of share price for these companies. The first table divides the sample into three groups — exchange companies, NASDAQ companies, and other companies. The second table divides the sample into five groups — New York Stock Exchange, American Stock Exchange, NMS, non-NMS NASDAQ (NDQ), and other companies. The third and fourth tables present the same information in percentages rather than numerical frequencies.

Table 4-1

CLOSING PRICE
Frequency Distributions for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Closing Price: *

	TOTAL	EXCHANGE	NASDAQ	OTHER**
$.001-.02	68	0	0	68
$.02-.10	363	1	114	248
$.10-.50	631	20	280	331
$.50-.99	387	26	219	142
$1.00-4.99	1,496	229	990	277
$5.00-9.99	1,096	258	710	128
$10.00-19.99	1,379	515	745	119
$20.00-49.99	1,369	737	508	124
$50.00-99.99	254	165	43	46
$100.00-199.99	42	18	4	20
$200.00-499.99	10	4	0	6
$500.00 or more	3	0	2	1
TOTALS	7,098	1,973	3,615	1,510

Notes: * The share price is the closing (or average) price for the stock as of the latest trade date before January 1987.

** Closing price is unavailable for most of the OTHER companies on the database. Many of the other OTC companies are thinly traded.

Table 4-2

CLOSING PRICE
Frequency Distributions by Marketplace
Public Companies on Disclosure Database
January, 1987

Closing Price: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER**
$.001-.02	68	0	0	0	0	68
$.02-.10	363	0	1	2	112	248
$.10-.50	631	8	12	15	265	331
$.50-.99	387	3	23	29	190	142
$1.00-4.99	1,496	80	149	413	577	277
$5.00-9.99	1,096	115	143	520	190	128
$10.00-19.99	1,379	334	181	625	120	119
$20.00-49.99	1,369	638	99	443	65	124
$50.00-99.99	254	158	7	35	8	46
$100.00-199.99	42	16	2	3	1	20
$200.00-499.99	10	4	0	0	0	6
$500.00 or more	3	0	0	2	0	1
TOTALS	7,098	1,356	617	2,087	1,528	1,510

Notes: * The share price is the closing (or average) price for the stock as of the latest trade date before January 1987.

** Closing price is unavailable for most of the OTHER companies on the database. Many of the other OTC companies are thinly traded.

Table 4-3

CLOSING PRICES
Percentages for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Closing Price: *

	TOTAL	EXCHANGE	NASDAQ	OTHER**
$.001-.02	1.0	0	0	4.5
$.02-.10	5.1	.1	3.2	16.4
$.10-.50	8.9	1.0	7.7	21.9
$.50-.99	5.5	1.3	6.1	9.4
$1.00-4.99	21.1	11.6	27.4	18.3
$5.00-9.99	15.4	13.1	19.6	8.5
$10.00-19.99	19.4	26.1	20.6	7.9
$20.00-49.99	19.3	37.4	14.1	8.2
$50.00-99.99	3.6	8.4	1.2	3.0
$100.00-199.99	.6	.9	.1	1.3
$200.00-499.99	.1	.2	0	.4
$500.00 or more	0	0	.1	.1
TOTALS	100%	100%	100%	100%

Notes: * The share price is the closing (or average) price for the stock as of the latest trade date before January 1987.

** Closing price is unavailable for most of the OTHER companies on the database. Many of the other OTC companies are thinly traded.

Table 4-4

CLOSING PRICE
Percentages by Marketplace
Public Companies on Disclosure Database
January, 1987

Closing Price: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER**
$.001-.02	1.0	0	0	0	0	4.5
$.02-.10	5.1	0	.2	.1	7.3	16.4
$.10-.50	8.9	.6	1.9	.7	17.3	21.9
$.50-.99	5.5	.2	3.7	1.4	12.4	9.4
$1.00-4.99	21.1	5.9	24.1	19.8	37.8	18.3
$5.00-9.99	15.4	8.5	23.2	24.9	12.4	8.5
$10.00-19.99	19.4	24.6	29.3	29.9	7.9	7.9
$20.00-49.99	19.3	47.1	16.0	21.2	4.3	8.2
$50.00-99.99	3.6	11.7	1.1	1.7	.5	3.0
$100.00-199.99	.6	1.2	.3	.1	.1	1.3
$200.00-499.99	.1	.3	0	0	0	.4
$500.00 or more	0	0	0	.1	0	.1
TOTALS	100%	100%	100%	100%	100%	100%

Notes: * The share price is the closing (or average) price for the stock as of the latest trade date before January 1987.

** Closing price is unavailable for most of the OTHER companies on the database. Many of the other OTC companies are thinly traded.

Profiles: Companies With Data Not Available on the Disclosure II Database

The next four tables, Tables 4-5 through 4-8, contain closing price frequency distributions for a sample of 227 companies with data not available on the January, 1987, Disclosure II database. The price reported is the closing (or bid) price for the stocks as of December 31, 1986.

Table 4-5

CLOSING PRICE
Frequency Distributions for Exchange and NASDAQ Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Closing Price: *

	TOTAL	EXCHANGE	NASDAQ
$.001-.02	0	0	0
$.02-.10	1	0	1
$.10-.50	1	1	0
$.50-.99	3	1	2
$1.00-4.99	24	12	12
$5.00-9.99	40	23	17
$10.00-19.99	81	55	26
$20.00-49.99	71	48	23
$50.00-99.99	4	3	1
$100.00-199.99	2	0	2
$200.00-499.99	0	0	0
$500.00 or more	0	0	0
TOTALS	227	143	84

* **Note:** The share price is the closing (or bid) price for the stock as of December 31, 1986.

Table 4-6

CLOSING PRICE
Frequency Distributions by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

*Closing Price:**

	TOTAL	NYS	AMS	NMS	NDQ
$.001-.02	0	0	0	0	0
$.02-.10	1	0	0	0	1
$.10-.50	1	1	0	0	0
$.50-.99	3	0	1	1	1
$1.00-4.99	24	6	6	5	7
$5.00-9.99	40	6	17	9	8
$10.00-19.99	81	38	17	17	9
$20.00-49.99	71	38	10	14	9
$50.00-99.99	4	1	2	0	1
$100.00-199.99	2	0	0	1	1
$200.00-499.99	0	0	0	0	0
$500.00 or more	0	0	0	0	0
TOTALS	227	90	53	47	37

*Note: The share price is the closing (or bid) price for the stock as of December 31, 1986.

Table 4-7

CLOSING PRICES
Percentages for Exchange and NASDAQ Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Closing Price: *

	TOTAL	EXCHANGE	NASDAQ
$.001-.02	0	0	0
$.02-.10	.4	0	1.2
$.10-.50	.4	.7	0
$.50-.99	1.3	.7	2.4
$1.00-4.99	10.6	8.4	14.3
$5.00-9.99	17.6	16.1	20.2
$10.00-19.99	35.7	38.5	31.0
$20.00-49.99	31.3	33.6	27.4
$50.00-99.99	1.8	2.1	1.2
$100.00-199.99	.9	0	2.4
$200.00-499.99	0	0	0
$500.00 or more	0	0	0
TOTALS	100%	100%	100%

*Note: The share price is the closing (or bid) price for the stock as of December 31, 1986.

Table 4-8

CLOSING PRICE
Percentages by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Closing Price: *

	TOTAL	NYS	AMS	NMS	NDQ
$.001-.02	0	0	0	0	0
$.02-.10	.4	0	0	0	2.7
$.10-.50	.4	1.1	0	0	0
$.50-.99	1.3	0	1.9	2.1	2.7
$1.00-4.99	10.6	6.7	11.3	10.6	18.9
$5.00-9.99	17.6	6.7	32.1	19.1	21.6
$10.00-19.99	35.7	42.2	32.1	36.2	24.3
$20.00-49.99	31.3	42.2	18.9	29.8	24.3
$50.00-99.99	1.8	1.1	3.8	0	2.7
$100.00-199.99	.9	0	0	2.1	2.7
$200.00-499.99	0	0	0	0	0
$500.00 or more	0	0	0	0	0
TOTALS	100%	100%	100%	100%	100%

*Note: The share price is the closing (or bid) price for the stock as of December 31, 1986.

Summary: Share Price as an Indicator of Size

The Disclosure database contained share price information for only about 68% of the companies on the database. The coverage varied widely by marketplace. Over nine out of ten exchange and NASDAQ companies included share price data. However, only about one in three other companies included share price data. The lack of data is indicative of the major disadvantage of the use of share price as an indicator of size — share price is not readily available for thinly traded stocks. A second disadvantage is also apparent from an examination of the database companies' closing prices. A large number of the other companies' securities are penny stocks. For the other companies where closing prices were available, 21% traded for under a dime. Over half traded for under a dollar. The median share price for the other companies in the database sample was $.75. Trading prices in this range may not be stable enough to provide a reliable quantitative measure of a "small" public company.

The median share price for an exchange company was $18.50 for the database sample and $14.88 for the non-database sample. For the NASDAQ companies, the non-database sample had a higher median share price ($14.50) than the database sample median ($6.00). The smallest (5th percentile) and largest (95th percentile) non-database company share prices were $2.25 and $41.25 for exchange companies and a similar $2.00 and $39.00 for NASDAQ companies. The comparable figures for the database companies were $2.00 and $62.75 for exchange companies and the far different $ .16 and $33.75 for NASDAQ companies.

Table 4-9 on the following page provides share price summary statistics at the 5th percentile, median and 95th percentile for the database companies and the non-database sample.

Table 4-9

SUMMARY STATISTICS: CLOSING PRICE

	5th Percentile	Median	95th Percentile
Companies on Disclosure Database:			
New York Stock Exchange	$4.50	$24.75	$68.75
American Stock Exchange	$ .875	$ 9.00	$33.125
Exchanges	$2.00	$18.50	$62.75
National Market System	$1.813	$10.75	$38.50
non-NMS NASDAQ	$ .063	$ 1.625	$19.50
NASDAQ	$ .156	$ 6.00	$33.75
Other	$ .02	$ .75	$47.50
Sample of Companies Not on Database:			
New York Stock Exchange	$3.25	$18.875	$41.75
American Stock Exchange	$1.50	$11.875	$37.00
Exchanges	$2.25	$14.875	$41.25
National Market System *	$2.50	$14.875	$39.00
non-NMS NASDAQ *	$ .875	$11.00	$62.50
NASDAQ	$2.00	$14.50	$39.00

*Note: The Disclosure list used as the sampling frame classified 13 of the sample companies as non-NMS NASDAQ which were part of the National Market System at December 31, 1986. If these companies were reclassified as NMS, the summary statistics would change as follows:

	5th Percentile	Median	95th Percentile
National Market System	no change	$16.75	$41.00
non-NMS NASDAQ	no change	$ 8.25	$32.75

TRADING VOLUME

Advantages and Disadvantages

Trading volume (share volume) is an indication of current investor interest in a stock. Trading volume has been used as a size indicator for initial exchange listing and entry into the NASDAQ/National Market System.

The primary advantage of the use of trading volume as an indicator of size is that it reflects the number of investment decisions being made. Investment decisions are, after all, decisions to buy, sell or hold. For stocks with very low trading volume, there may be little need for mandated disclosure.

One disadvantage of using trading volume as an indicator of size is that volume, like price, may be subject to large temporary fluctations. Volume can also be affected by a company's trading in its own shares. Also, trading volume will be affected by the amount of institutional interest in a stock. Institutional interest in small firms is not common, but it does occur. For example, there are now some mutual funds which concentrate on over-the-counter securities and at least one institutional investor concentrates part of its portfolio on "neglected" securities — those securities which are not widely followed by analysts or institutions.

Moreover, institutional interest in smaller issues may change over time. Institutional interest in both non-NMS NASDAQ stocks and pink-sheet stocks, which tend to be smaller issues, went on the upswing during 1988, affecting both volume and price patterns in the OTC market. For example, in May, 1988, articles in the *Wall Street Journal* referred to a "pink sheet frenzy" (May 11, 1988) and "buckshot buying" of smaller NASDAQ issues (May 2, 1988) and noted the increasing participation of institutional investors in smaller issues:[2]

> Despite the threat of liquidity problems. . . institutions are finding it hard to ignore the hot tiny issues. On Friday, for example, large stocks were weak; the Nasdaq 100 Index of the biggest OTC issues fell 1.62 points to 351.84. But little OTC stocks surged. . . "There's a major move afoot," says Binkley Shorts, senior vice president of Wellington/Thorndike

[2] Priscilla Ann Smith, *op. cit.*.

and portfolio manager of the OTC Securities Fund of Fort Washington, Pa., "It's been five years since the institutions showed this kind of interest in small OTC stocks."

Finally, as with share price, trading volume data may not be reliably available for thinly traded stocks.

Profiles: Companies With Data Available On the Disclosure II Database

Trading volume data were available for 5,586 companies on the Disclosure II database. The trading volume reported is the weekly volume as of the last trade date. Tables 4-10 to 4-13 on the following pages present frequency distributions of trading volume for these companies. The first table divides the sample into three groups — exchange companies, NASDAQ companies, and other companies. The second table divides the sample into five groups — New York Stock Exchange, American Stock Exchange, NMS, non-NMS NASDAQ (NDQ), and other. The third and fourth tables present the same information in percentages rather than numerical frequencies.

Table 4-10

WEEKLY VOLUME
Frequency Distributions for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Weekly Volume: *

	TOTAL	EXCHANGE	NASDAQ	OTHER**
0-99	8	0	8	0
100-999	133	14	110	9
1,000-4,999	483	86	354	43
5,000-9,999	509	117	352	40
10,000-19,999	707	198	466	43
20,000-49,999	1,187	364	758	65
50,000-99,999	842	270	541	31
100,000-199,000	682	271	391	20
200,000-499,999	646	337	300	9
500,000-999,999	239	164	73	2
1,000,000-1,999,999	108	75	30	3
2,000,000-4,999,999	37	30	7	0
5,000,000 or more	5	3	2	0
TOTALS	5,586	1,929	3,392	265

Notes: *Volume indicates the amount of shares traded during the last reported trading week.

**Volume data is unavailable for most of the OTHER companies on the database. The unrepresented companies are likely to be thinly traded.

Table 4-11

WEEKLY VOLUME
Frequency Distributions by Marketplace
Public Companies on Disclosure Database
January, 1987

Weekly Volume: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER**
0-99	8	0	0	0	8	0
100-999	133	1	13	26	84	9
1,000-4,999	483	8	78	135	219	43
5,000-9,999	509	20	97	181	171	40
10,000-19,999	707	85	113	274	192	43
20,000-49,999	1,187	206	158	456	302	65
50,000-99,999	842	207	63	367	174	31
100,000-199,999	682	233	38	293	98	20
200,000-499,999	646	310	27	224	76	9
500,000-999,999	239	157	7	56	17	2
1,000,000-1,999,999	108	74	1	26	4	3
2,000,000-4,999,999	37	29	1	5	2	0
5,000,000 or more	5	3	0	1	1	0
TOTALS	5,586	1,333	596	2,044	1,348	265

Notes: *Volume indicates the amount of shares traded during the last reported trading week.

**Volume data is unavailable for most of the OTHER companies on the database. The unrepresented companies are likely to be thinly traded.

Table 4-12

WEEKLY VOLUME
Percentages for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Weekly Volume: *

	TOTAL	EXCHANGE	NASDAQ	OTHER**
0-99	.1	0	.2	0
100-999	2.4	.7	3.2	3.4
1,000-4,999	8.6	4.5	10.4	16.2
5,000-9,999	9.1	6.1	10.4	15.1
10,000-19,999	12.7	10.3	13.7	16.2
20,000-49,999	21.2	18.9	22.3	24.5
50,000-99,999	15.1	14.0	15.9	11.7
100,000-199,999	12.2	14.0	11.5	7.5
200,000-499,999	11.6	17.5	8.8	3.4
500,000-999,999	4.3	8.5	2.2	.8
1,000,000-1,999,999	1.9	3.9	.9	1.1
2,000,000-4,999,999	.7	1.6	.2	0
5,000,000 or more	.1	.2	.1	0
TOTALS	100%	100%	100%	100%

Notes: *Volume indicates the amount of shares traded during the last reported trading week.

**Volume data is unavailable for most of the OTHER companies on the database. The unrepresented companies are likely to be thinly traded.

Table 4-13

WEEKLY VOLUME
Percentages by Marketplace
Public Companies on Disclosure Database
January, 1987

Weekly Volume: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER**
0-99	.1	0	0	0	6	0
100-999	2.4	.1	2.2	1.3	6.2	3.4
1,000-4,999	8.6	.6	13.1	6.6	16.2	16.2
5,000-9,999	9.1	1.5	16.3	8.9	12.7	15.1
10,000-19,999	12.7	6.4	19.0	13.4	14.2	16.2
20,000-49,999	21.2	15.5	26.5	22.3	22.4	24.5
50,000-99,999	15.1	15.5	10.6	18.0	12.9	11.7
100,000-199,999	12.2	17.5	6.4	14.3	7.3	7.5
200,000-499,999	11.6	23.3	4.5	11.0	5.6	3.4
500,000-999,999	4.3	11.8	1.2	2.7	1.3	.8
1,000,000-1,999,999	1.9	5.6	.2	1.3	.3	1.1
2,000,000-4,999,999	.7	2.2	.2	.2	.1	0
5,000,000 or more	.1	.2	0	0	.1	0
TOTALS	100%	100%	100%	100%	100%	100%

Notes: *Volume indicates the amount of shares traded during the last reported trading week.

**Volume data is unavailable for most of the OTHER companies on the database. The unrepresented companies are likely to be thinly traded.

Profiles: Companies With Data Not Available on the Disclosure II Database

The next four tables, Tables 4-14 through 4-17, contain trading volume frequency distributions for a sample of 227 companies with data not available on the January, 1987, Disclosure II database. The volume reported is the annual trading volume for 1986, which is a longer time period than reported for the database companies.

Table 4-14

ANNUAL VOLUME
Frequency Distributions for Exchange and NASDAQ Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

*Annual Volume**

	TOTAL	EXCHANGE	NASDAQ
Less than 25,000	1	0	1
25,000-249,999	24	9	15
250,000-1,249,999	63	39	24
1,250,000-2,499,999	52	37	15
2,500,000-4,999,999	37	21	16
5,000,000-12,499,999	26	18	8
12,500,000-24,999,999	12	8	4
25,000,000-49,999,999	11	10	1
50,000,000 or more	1	1	0
TOTAL	227	143	84

*Note: Annual volume is volume for calendar year 1986.

Table 4-15

ANNUAL VOLUME
Frequency Distributions by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

*Annual Volume**

	TOTAL	NYS	AMS	NMS	NDQ
Less than 25,000	1	0	0	0	1
25,000-249,999	24	2	7	7	8
250,000-1,249,999	63	20	19	12	12
1,250,000-2,499,999	52	23	14	11	4
2,500,000-4,999,999	37	13	8	10	6
5,000,000-12,499,999	26	15	3	4	4
12,500,000-24,999,999	12	7	1	3	1
25,000,000-49,999,999	11	9	1	0	1
50,000,000 or more	1	1	0	0	0
TOTAL	227	90	53	47	37

*Note: Annual volume is volume for calendar year 1986

Table 4-16

ANNUAL VOLUME
Percentages for Exchange and NASDAQ Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

*Annual Volume**

	TOTAL	EXCHANGE	NASDAQ
Less than 25,000	.4	0	1.2
25,000-249,999	10.6	6.3	17.9
250,000-1,249,999	27.8	27.3	28.6
1,250,000-2,499,999	22.9	25.9	17.9
2,500,000-4,999,999	16.3	14.7	19.0
5,000,000-12,499,999	11.5	12.6	9.5
12,500,000-24,999,999	5.3	5.6	4.8
25,000,000-49,999,999	4.8	7.0	1.2
50,000,000 or more	.4	.7	0
TOTAL	100%	100%	100%

*Note: Annual volume is volume for calendar year 1986.

Table 4-17

ANNUAL VOLUME
Percentages by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

*Annual Volume**

	TOTAL	NYS	AMS	NMS	NDQ
Less than 25,000	.4	0	0	0	2.7
25,000-249,999	10.6	2.2	13.2	14.9	21.6
250,000-1,249,999	27.8	22.2	35.8	25.5	32.4
1,250,000-2,499,999	22.9	25.6	26.4	23.4	10.8
2,500,000-4,999,999	16.3	14.4	15.1	21.3	16.2
5,000,000-12,499,999	11.5	16.7	5.7	8.5	10.8
12,500,000-24,999,999	5.3	7.8	1.9	6.4	2.7
25,000,000-49,999,999	4.8	10.0	1.9	0	2.7
50,000,000 or more	.4	1.1	0	0	0
TOTAL	100%	100%	100%	100%	100%

*Note: Annual volume is volume for calendar year 1986.

Summary: Trading Volume as an Indicator of Size

Much as in the case of share price, the database coverage of trading volume is poor for companies in the "other"category (not New York Stock Exchange, American Stock Exchange or NASDAQ). The database contains trading volume information for only 53.5% of all the database companies. Moreover, trading volume is reported for only 265 of the 4,673 other companies on the database, which is less than 6% coverage.

A rough comparison of volume for the database and non database companies may be made by annualizing the weekly volume of the database companies. Using this comparison, annual volume for the non-database companies is generally lower in each of the five marketplaces than annualized volume for the database companies.

Table 4-18, on the following page, provides trading volume summary statistics at the 5th percentile, median and 95th percentile for the database companies and the non-database sample.

Table 4-18

SUMMARY STATISTICS: TRADING VOLUME

	5th Percentile	Median	95th Percentile
	Weekly (thousands of shares)		
Companies on Disclosure Database:			
New York Stock Exchange	14	148	1.363
American Stock Exchange	2	20	244
Exchanges	5	78	1.078
National Market System	3	46	463
non-NMS NASDAQ	1	20	267
NASDAQ	1	33	397
Other	1	19	201
	Annual (thousands of shares)		
Sample of Companies Not on Database:			
New York Stock Exchange	412	2.454	36.566
American Stock Exchange	103	1.117	12.123
Exchanges	204	1.900	30.496
National Market System *	78	1.822	14.332
non-NMS NASDAQ *	41	997	14.207
NASDAQ	73	1.394	14.207

***Note:** The Disclosure list used as the sampling frame classified 13 of the sample companies as non-NMS NASDAQ which were part of the National Market System at December 31, 1986. If these companies were reclassified as NMS, the summary statistics would change as follows:

	5th Percentile	Median	95th Percentile
National Market System	no change	no change	no change
non-NMS NASDAQ	no change	493	4.332

MARKET VALUE

Advantages and Disadvantages

Market value is a measure of the current value of shareholder investment in a company. Market value is used as a size criterion for exchange listing or for entry into the NASDAQ/National Market System.

The advantage of using market value as a measure of size is that it represents the amount shareholders have at risk. Thus, a market value based definition of "small public companies" would be a risk based definition.

The disadvantage of using market value as an indicator of size is that, like share price and trading volume, market value can be subject to wide temporary fluctuations. For example, the Wilshire index, an index based on the market value of a broad range of stocks, was between $2.4 and $2.5 trillion in December 1986. The index peaked at about $3.3 trillion in August, 1987, but fell back to $2.23 trillion by October 26, 1987. Also, market value is difficult to determine for thinly traded stocks. Finally, market value for distressed companies tends to be very low. It would be difficult to distinguish between small companies and distressed companies using market value as the sole criterion to measure size. While regulatory relief may be desirable for small companies, it is not a policy goal to provide relief from mandated disclosures for distressed companies.

Profiles: Companies With Data Available On the Disclosure II Database

As of January 1987, market value data reported on the Disclosure II database was not searchable. Later editions of the database do allow a search by market value. Moreover, market value is reported only for a subset of the database companies, with much less coverage of other companies than exchange or NASDAQ companies. Therefore, instead of profiles for the database firms, the section below presents market value data for all exchange and NASDAQ issues as of December 31, 1986.

Profiles: Market Value of Exchange and NASDAQ Securities.

Tables 4-19 through 4-22 on the following pages present data on the market value of exchange and NASDAQ securities as of December 31, 1986. Table 4-19 describes the market value of New York Stock Exchange stocks categorized by industry group. Table 4-20 presents the market value of American Stock Exchange equity issues categorized by size groups. Table 4-21 provides the market value of all NASDAQ securites categorized by industry group. Table 4-22 presents the market value of all NASDAQ companies categorized by size groups. This table also breaks the NASDAQ securities into National Market System and non-NMS NASDAQ groups.

Table 4-19

MARKET VALUE OF NEW YORK STOCK EXCHANGE STOCKS BY INDUSTRY GROUP
As of December 31, 1986

		COMMON STOCKS		ALL STOCKS	
Industry Group	Number of Companies	No. of Issues	Market Value (in billions)	No. of Issues	Market Value (in billions)
Industrials	1,043	1,040	$1,526.9	1,251	$1,551.2
Transportation	50	46	52.2	64	$53.1
Utilities	198	170	347.5	567	$362.0
Finance, Real Estate	284	280	223.2	375	$232.9
TOTALS	1,575	1,536	$2,149.8	2,257	$2,199.3

Source: New York Stock Exchange data.

Table 4-20

MARKET VALUE OF AMERICAN STOCK EXCHANGE EQUITY SECURITIES
As of December 31, 1986

	NUMBER OF ISSUES	PERCENTAGE
Market Value:		
Less than $1,000,000	16	1.7%
$1,000,000-9,999,999	179	19.1%
$10,000,000-49,999,999	402	42.9%
$50,000,000-99,999,999	176	18.8%
$100,000,000-499,999,999	120	12.8%
$500,000,000-999,999,999	24	2.6%
$1,000,000,000-1,999,999,999	12	1.3%
$2,000,000,000 or more	7	.7%
TOTALS	936	100%

Source: American Stock Exchange data. Includes all equity issues on the American Stock Exchange at year-end 1986, other than those suspended.

Table 4-21

MARKET VALUE OF NASDAQ SECURITIES BY INDUSTRY GROUP As of December 31, 1986

Industry Group*	NUMBER OF ISSUES	MARKET VALUE (in billions)
Industrials	2,932	$188.4
Transportation	88	10.9
Utilities	130	18.0
Bank, Other Finance, Insurance	1,069	123.7
Unassigned Issues*	970	21.7
TOTALS	5,189	$362.6

*Note: NASDAQ industry classifications include all NMS securities except warrants and all non-NMS NASDAQ domestic common stocks. All other securities are included in the unassigned category.

Source: NASD data.

Table 4-22

MARKET VALUE OF NASDAQ SECURITIES
As of December 31, 1986

	National Market System		non-NMS NASDAQ		All NASDAQ	
	Companies	%	Companies	%	Companies	%
Less than $25,000,000	860	33.1%	1,552	85.4%	2,412	54.6%
$25,000,000-49,999,999	528	20.3%	151	8.3%	679	15.4%
$50,000,000-74,999,999	297	11.4%	49	2.7%	346	7.8%
$75,000,000-124,999,999	314	12.1%	30	1.7%	344	7.8%
$125,000,000-249,999,999	294	11.3%	21	1.2%	315	7.1%
$250,000,000-499,999,999	188	7.2%	9	0.5%	197	4.5%
$500,000,000-999,999,999	82	3.2%	3	0.2%	85	1.9%
$1,000,000,000 or more	37	1.4%	2	0.1%	39	0.9%
TOTALS	2,600	100%	1,817	100%	4,417	100%

Source: NASD data.

Profiles: Companies With Data Not Available on the Disclosure II Database

The next four tables, Tables 4-23 through 4-26, contain market value frequency distributions for a sample of exchange and NASDAQ companies with data not available on the Disclosure II database. The reported market values are as of December 31, 1986.

Table 4-23

MARKET VALUE
Frequency Distribution for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
December 31, 1986

*Market Value**

	TOTAL	EXCHANGE	NASDAQ
Under $1,000,000	0	0	0
$1,000,000-9,999,999	14	4	10
$10,000,000-49,999,999	77	37	40
$50,000,000-99,999,999	36	27	9
$100,000,000-499,999,999	63	47	16
$500,000,000-999,999,999	9	8	1
$1,000,000,000-1,999,999,999	6	4	2
$2,000,000,000 or more	2	2	0
TOTALS	207	129	78

*Note: Market value is estimated market value calculated by multiplying closing (or bid) price at December 31, 1986 by outstanding shares for the closest reporting date to December 31, 1986.

Table 4-24

MARKET VALUE
Frequency Distribution by Marketplace
Sample of Public Companies Not on Disclosure Database
December 31, 1986

*Market Value**

	TOTAL	NYS	AMS	NMS	NDQ
Under $1,000,000	0	0	0	0	0
$1,000,000-9,999,999	14	1	3	4	6
$10,000,000-49,999,999	77	11	26	22	18
$50,000,000-99,999,999	36	14	13	6	3
$100,000,000-499,999,999	63	41	6	9	7
$500,000,000-999,999,999	9	6	2	0	1
$1,000,000,000-1,999,999,999	6	2	2	1	1
$2,000,000,000 or more	2	2	0	0	0
TOTALS	207	77	52	42	36

*Note: Market value is estimated market value calculated by multiplying closing (or bid) price at December 31, 1986 by outstanding shares for the closest reporting date to December 31, 1986.

Table 4-25

MARKET VALUE
Percentages for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
December 31, 1986

*Market Value**

	TOTAL	EXCHANGE	NASDAQ
Under $1,000,000	0	0	0
$1,000,000-9,999,999	6.8	3.1	12.8
$10,000,000-49,999,999	37.2	28.7	51.3
$50,000,000-99,999,999	17.4	20.9	11.5
$100,000,000-499,999,999	30.4	36.4	20.5
$500,000,000-999,999,999	4.3	6.2	1.3
$1,000,000,000-1,999,999,999	2.9	3.1	2.6
$2,000,000,000 or more	1.0	1.6	0
TOTALS	100%	100%	100%

*Note: Market value is estimated market value calculated by multiplying closing (or bid) price at December 31, 1986 by outstanding shares for the closest reporting date to December 31, 1986.

Table 4-26

MARKET VALUE
Percentages by Marketplace
Sample of Public Companies Not on Disclosure Database
December 31, 1986

*Market Value**

	TOTAL	NYS	AMS	NMS	NDQ
Under $1,000,000	0	0	0	0	0
$1,000,000-9,999,999	6.8	1.3	5.7	9.5	16.7
$10,000,000-49,999,999	37.2	14.3	50.0	52.4	50.0
$50,000,000-99,999,999	17.4	18.2	25.0	14.3	8.3
$100,000,000-499,999,999	30.4	53.2	11.5	21.4	19.4
$500,000,000-999,999,999	4.3	7.8	3.8	0	2.7
$1,000,000,000-1,999,999,999	2.9	2.6	3.8	2.4	2.7
$2,000,000,000 or more	1.0	2.6	0	0	0
TOTALS	100%	100%	100%	100%	100%

*Note: Market value is estimated market value calculated by multiplying closing (or bid) price at December 31, 1986 by outstanding shares for the closest reporting date to December 31, 1986.

Summary: Market Value as an Indicator of Size

There are differences between the marketplaces based on both industry groups and size categorizations. For example, industrials account for about 71% of the aggregate market value of New York Stock Exchange stocks at December 31, 1986. In contrast, industrials account for only about 52% of the aggregate market value of NASDAQ stocks. As an example of a size difference, consider the differences in the under $50 million range. For the American Stock Exchange, about 64% of equity issues had market values less than $50 million on December 31, 1986. For the National Market System, about 53% of the NMS companies had securities with less than $50 million market value. But for the non-NMS NASDAQ companies, almost 94% had market values under $50 million.

Due to the large number of thinly traded other OTC securities and the relative lack of coverage for all but a subset of this market, reliable market value data for the other OTC marketplace is not available.

As a risk-based indicator, market value is a very pertinent indicator of size. However, it suffers from the same disadvantages of the other market-based size indicators discussed in this chapter. The lack of readily available, reliable measures of market value, particularly for thinly traded stocks, makes market value an impractical indicator of size. It is possible that market value data may become more readily available in the future due to such developments as the NASD's planned non-NASDAQ "OTC Bulletin Board" computerized system. However, there is another disadvantage to market value which must be considered. Even when market value data is available, market value can fluctuate widely over short periods of time. This again is an undesirable characteristic of a size indicator.

Table 4-27 on the following page provides market value summary statistics at the 5th percentile, median and 95th percentile for the non-database sample.

Table 4-27

SUMMARY STATISTICS: MARKET VALUE
(in millions of dollars)

	5th Percentile	Median	95th Percentile
Sample of Companies Not on Database:			
New York Stock Exchange	12.0	140.1	1,212.6
American Stock Exchange	9.0	40.0	602.0
Exchanges	11.0	90.0	900.0
National Market System *	6.5	32.0	387.2
non-NMS NASDAQ *	2.5	31.2	523.0
NASDAQ	4.9	32.0	403.8

***Note:** The Disclosure list used as the sampling frame classified 13 of the sample companies as non-NMS NASDAQ which were part of the National Market System at December 31, 1986. If these companies were reclassified as NMS, the summary statistics would change as follows:

	5th Percentile	Median	95th Percentile
National Market System	no change	39.7	523.0
non-NMS NASDAQ	no change	20.5	102.6

TRADING ACTIVITY

Advantages and Disadvantages

In a September 30, 1986 letter related to the request in SEC Release No. 34-23407 for suggestions concerning substitute or supplementary criteria to establish the threshold level for 1934 Act requirements, the American Bar Association (ABA) presented comments developed by two subcommittees of the ABA's Committee on Federal Regulation of Securities: the Subcommittee on Reporting Companies Under the 1934 Act, and the Subcommittee on Partnerships, Trusts and Unincorporated Associations. In this letter, as in several previous comment letters, a trading activity threshold was advocated:[3]

> More particularly, we recommend that if the issuer of securities can demonstrate that the securities have minimal trading (i.e. 25 or fewer trades in the last fiscal year) such securities should be eligible for exemption from the Exchange Act registration and reporting requirements. If, after the exemption is applicable and there is an increase in trading above 25 per year, the exemption would no longer be available at the end of the fiscal year in which the increase in trading took place.

It was further suggested that reporting requirements should be reduced, although not eliminated, for a second tier of securities where trading "exceeds 25 trades but is not greater than some higher number":[4]

> While the Drafting Committee has considered various criteria for determining eligibility for the second tier, such as number of holders and value of assets, we have concluded that the sole determinant should be based on trading activity. Accordingly it is our suggestion that registrants meeting the basic requirements of 500 holders and assets of $5 million should be entitled to second tier status if the annual trading volume in the securities exceeds 25 trades but is not greater than some higher number. The upper limit should be at a

[3] American Bar Association Section of Corporation, Banking and Business Law, comment letter re SEC Release No. 34-23407, File No. S7-16-86, *Reporting by Small Issuers*, p. 2.

[4] Ibid., p. 3.

> point which generally is agreed to separate "moderate" trading from "active" trading. We have not attempted to determine what that number should be since the appropriate number could be subject to considerable debate.

The primary argument in support of a trading activity indicator of size is that when there is little trading activity, the costs of compliance with required disclosures are likely to exceed the benefits:[5]

> The existing security holders are of necessity investing for the long term and do not need current information for investment decisions, because they cannot expect to trade. The lack of trading volume also indicates that there are not many potential buyers for the securities, limiting the public interest served through the burden of the reporting obligations.

The arguments in favor of using trading activity as a size criterion concentrate exclusively on information needs for investment decisions, whereas 1934 Act disclosures are directed towards information needs for both investment decisions and corporate suffrage decisions. This narrower focus applies to all the market-based indicators of size when they are used as the sole criterion to define a small public company.

The major disadvantage of using trading activity as an indicator of size is that transactions data is only readily available for New York Stock Exchange, American Stock Exchange and NMS securities. Current NASD rules do not require reporting the number of transactions for non-NMS NASDAQ securities, nor do the Pink Sheets contain transactions data. To accumulate data on the number of trades, it would be necessary to contact all the market makers individually. This makes number of transactions data both difficult to accumulate and difficult to verify. If number of transactions is to be used as a criterion for tiering 1934 Act requirements, a system of reporting number of transactions data will need to be instituted. This would create an increase in the regulatory burden for market makers in order to reduce the regulatory burden for issuers. Alternatively, a surrogate measure of trading activity — number of days traded — might be used. Data on number of days traded can be calculated currently for non-NMS NASDAQ securities by subtracting the

[5] Ibid., p. 3.

number of zero volume days reported on the NASD Monthly Stock Reports from the number of trading days in a period. Similar data is not yet available for pink-sheet securities.

Further disadvantages to the use of trading activity as an indicator of size include the possible problem that the number of trades may be deliberately lowered by restricting the times when a security can be traded. Sometimes, there are other legitimate reasons for restricting trading activity. For example, many limited partnerships now restrict trading to a certain number of days per year in order to simplify transactions processing. However, such restrictions also tend to limit the number of transactions. Also, the number of trades may not reflect the degree of public interest when large block trades are involved. For example, large block purchases of a security by a mutual fund are counted as a single transaction, although the interests of a large number of mutual fund shareholders are represented in this transaction.

Finally, there is a possible difficulty in distinguishing between small companies and distressed companies using lack of trading activity as an indicator of size. Low trading activity may reflect an inability to transact in shares of a distressed company, without necessarily indicating reduced information needs on the part of shareholders.

Profiles: Number of Transactions for Exchange and NMS Securities

Trading activity (number of transactions/number of days traded) is not included on the Disclosure II database. Data on trading activity were obtained directly from the New York Stock Exchange, the American Stock Exchange and the NASD. The New York Stock Exchange provided number of transactions data and days traded data for all listed securities during 1987; 1986 data were unavailable. The American Stock Exchange and the NASD provided number of transactions data for 1986 for all American Stock Exchange and all National Market System securities; number of days traded data were unavailable. Transactions data are not maintained for non-NMS NASDAQ securities.

Table 4-28, on the following page, summarizes the number of transactions for 1986 (1987 for New York Stock Exchange) for securities traded on the exchanges and the NASDAQ National Market System.

Table 4-28

NUMBER OF TRADES
New York Stock Exchange, 1987; American Stock Exchange, 1986 and NASDAQ National Market System Securities, 1986

	NYS-1987		AMS-1986		NMS-1986	
	Number	Percentage	Number	Percentage	Number	Percentage
1-9	116	4.1	4	.4	6	.2
10-19	63	2.2	1	.1	8	.3
20-25	28	1.0	2	.2	4	.1
26-29	24	.8	2	.2	4	.1
30-49	73	2.6	13	1.2	11	.4
50-99	164	5.8	18	1.7	35	1.3
100-999	572	20.1	473	44.3	806	29.9
1,000-9,999	1,165	40.8	526	49.9	1,568	58.2
10,000-99,999	639	22.4	30	2.8	250	9.3
100,000 or more	9	.3	0	0	2	.1
	2,853	100%	1,069	100%	2,694	100%

Source: NYS: New York Stock Exchange statistics for 1987 (1986 unavailable)

AMS: American Stock Exchange statistics for 1986, including all equity security trading during the year.

NMS: National Association of Securities Dealers statistics for NASDAQ/NMS securities for 1986.

Profiles: Days Traded for New York Stock Exchange Firms and a Sample of non-NMS NASDAQ Firms

As was noted earlier, if transactions data are unavailable, number of days traded might provide a simpler alternative measure of level of trading activity. To test the reasonableness of this surrogation, the correlation between annual volume and number of days traded during 1987 was computed for New York Stock Exchange securities. Table 4-29, below, presents the distribution of number of days traded for all New York Stock Exchange securities during 1987. The correlation between number of days traded and annual transactions volume for these securities was .387. This correlation, which is significant at the .001 level, indicates that number of days traded may offer a reasonable, though not perfect, surrogate for number of transactions.

Since number of transactions data are not available for non-NMS NASDAQ firms or other OTC firms, a surrogate trading activity measure was calculated for a sample of non-NMS NASDAQ securities. From daily share volume data reported in the NASD's *Monthly Stock Report*, days with zero volume (days not traded) could be calculated. This was done for a sample of 205 non-NMS NASDAQ securities for the month of May, 1986. The May trading activity (days in period less days not traded) was then annualized to estimate the annual number of days traded for each security in the sample. Table 4-30, also below, presents the sample distribution of *days not traded* for May, 1986 and the related estimate of the number of days traded for the year.

Table 4-29

NUMBER OF DAYS TRADED
All New York Stock Exchange Securities, 1987

	NYS	
	Number	Percentage
1-9	192	6.7
10-19	175	6.1
20-25	64	2.2
26-29	37	1.3
30-49	105	3.7
50-99	221	7.8
100-199	375	13.1
200 or more	1.684	59.0
	2.853	100%

Source: New York Stock Exchange statistics for 1987.

Table 4-30

DAYS NOT TRADED
Sample of Non-NMS NASDAQ Securities
May, 1986

May, 1986 Days Not Traded	Number	Percentage	Estimated Days Traded for Year*
0-4	91	44.4	200 or more
5-12	59	28.8	100-199
13-16	18	8.8	50-99
17-18	21	10.2	26-49
19-21	16	7.8	1-25
	205	100%	

Source: Calculated from NASD Monthly Stock Report for May, 1986.

***Note:** The month of May, 1986 had 21 trading days. The year 1986 had 253 trading days. The estimated days traded for the year was calculated by annualizing the May number of days traded (21 days - days not traded in May). Daily average share volume in May was 114.9 million shares, compared to an average daily volume of 113.6 million shares for the year.

Summary: Trading Activity as an Indicator of Size

As would be expected, relatively few exchange or National Market System securities had 25 or fewer trades over the course of a year.

Only 18 (0.67%) of the National Market System securities had 25 or fewer trades during 1986. Of these 18, 6 warrants and 1 dual-class stock were securities of a company which had one or more other NMS securities with more than 25 1986 transactions. Thus, only 11 NMS companies (less than half of one percent of all NMS companies) had no securities with annual trading activity of greater than 25 transactions. None of the 20 limited partnerships and none of the 25 shares of beneficial interest securities (mostly real estate investment trusts) included on the National Market System had fewer than 25 transactions. Even the two securities which, as of December 31, 1986, had temporarily fallen below at least one of the NASDAQ requirements surpassed 25 transactions: Multimedia, Inc. with 4,068 trades and Pulitzer Publishing with 1,181 trades.

For the American Stock Exchange, only 7 (0.7%) securities had 25 or fewer trades. Only one company did not have another American Stock Exchange security which did trade more than 25 times during the year. This company, South Texas Drilling Inc., had only 4 trades totalling 4,400 shares during the year, all at 25 cents per share. This company was delisted by December 31, 1986.

Of the New York Stock Exchange securities, 207 (7.3%) had 25 or fewer trades. The majority of these were warrants or preferred stocks, with another security of the same company having more than 25 trades during the year. Only eight companies had 25 or fewer trades on all their New York Stock Exchange listed securities.

For the New York Stock Exchange, the significant correlation ($r = .387$, $p = .001$) between number of transactions and number of days traded, indicates that number of days traded is a potential surrogate for a transactions-based measure of activity. This may be a more practical measure of trading activity, as it would require less additional reporting burden on market makers than reporting the number of transactions.

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For a sample of 205 non-NMS NASDAQ stocks, an estimate of the distribution of 1986 days traded based on May, 1986, activity indicates that approximately 7.8 percent of these securities would have had 25 or fewer trading days during 1986. However, three out of four of these securities were securities of companies that also had another security which did have 25 or more NASDAQ trades during the year.

No trading activity data was available for other OTC securities. Thus, since the other OTC companies are a large portion of all SEC-reporting companies, it is difficult to assess the number of companies which would be considered small under a trading activity definition of small public company.

CHAPTER FIVE:
PROFILES BASED ON OTHER INDICATORS OF SIZE

This chapter presents data for two other potential indicators of size — number of employees and number of shareholders.

NUMBER OF EMPLOYEES

Advantages and Disadvantages

After much discussion about how to define a small business, the 1980 White House Conference on Small Business concluded that the number of employees was the best single indicator of size. The definition agreed upon, and now used by the Small Business Administration, was that a small business is a business with less than 500 employees. For some industry analyses, the SBA drops the cutoff for a small business to 100 employees. The number of employees is very frequently used to tier regulations. It has been used in handicap discrimination regulations, by the FDA for medical device regulation, by OSHA for health and safety regulations, by the Mine Safety and Health Administration for mine safety training rules, and by the EEOC for equal employment opportunity requirements.

The advantages of using the number of employees as a measure of size include its general availability and its invariance with respect to price level changes. The level of employment is also a relatively stable indicator of a company's size. It has also been argued that the number of employees is a good indicator of size because the greater the number of employees, the more difficult it is for owners to monitor and control operations.

The major disadvantage to the use of number of employees as an indicator of size is that the number of employees may be affected by technology. For instance, a highly computerized and automated manufacturing plant may require less employees to produce the same level of sales and net income as a less technologically developed plant. Industry differences are also a possible disadvantage of the use of number of employees to measure size as some industries are more labor intensive than others.

Profiles: Companies With Data Available On the Disclosure II Database

Number of employees data were available for 8,512 companies on the Disclosure II database. Tables 5-1 through 5-4 on the following pages present frequency distributions of number of employees for these companies. The first table divides the sample into three groups — exchange companies, NASDAQ companies, and other companies. The second table divides the sample into five groups — New York Stock Exchange, American Stock Exchange, NMS, non-NMS NASDAQ (NDQ) and other companies. The third and fourth tables present the same information in percentages rather than numerical frequencies.

Table 5-1

NUMBER OF EMPLOYEES
Frequency Distributions for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Number of Employees: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
0-1	125	1	9	115
2-5	575	1	138	436
6-9	309	10	102	197
10-19	451	13	170	268
20-49	755	28	324	403
50-99	770	54	360	356
100-199	921	81	454	386
200-499	1,213	204	629	380
500-999	834	235	405	194
1,000-1,999	746	254	317	175
2,000-4,999	805	375	245	185
5,000-9,999	414	258	82	74
10,000-49,999	473	341	39	93
50,000 or more	121	100	0	21
TOTALS	8,512	1,955	3,274	3,283

* **Note:** Number of employees includes both full-time and part-time workers. The number is extracted from Item 1 of the company's most recent 10-K filing.

Table 5-2

NUMBER OF EMPLOYEES
Frequency Distributions by Marketplace
Public Companies on Disclosure Database
January, 1987

Number of Employees *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
0-1	125	0	1	0	9	115
2-5	575	0	1	10	128	436
6-9	309	4	6	8	94	197
10-19	451	7	6	21	149	268
20-49	755	7	21	59	265	403
50-99	770	11	43	148	212	356
100-199	921	20	61	257	197	386
200-499	1,213	62	142	453	176	380
500-999	834	107	128	341	64	194
1,000-1,999	746	156	98	289	28	175
2,000-4,999	805	296	79	225	20	185
5,000-9,999	414	231	27	75	7	74
10,000-49,999	473	332	9	37	2	93
50,000 or more	121	98	2	0	0	21
TOTALS	8,512	1,331	624	1,923	1,351	3,283

* **Note:** Number of employees includes both full-time and part-time workers. The number is extracted from Item 1 of the company's most recent 10-K filing.

Table 5-3

NUMBER OF EMPLOYEES
Percentages for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Number of Employees: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
0-1	1.5	.1	.3	3.5
2-5	6.8	1	4.2	13.3
6-9	3.6	.5	3.1	6.0
10-19	5.3	.7	5.2	8.2
20-49	8.9	1.4	9.9	12.3
50-99	9.0	2.8	11.0	10.8
100-199	10.8	4.1	13.9	11.8
200-499	14.3	10.4	19.2	11.6
500-999	9.8	12.0	12.4	5.9
1,000-1,999	8.8	13.0	9.7	5.3
2,000-4,999	9.5	19.2	7.5	5.6
5,000-9,999	4.9	13.2	2.5	2.3
10,000-49,999	5.6	17.4	1.2	2.8
50,000 or more	1.4	5.1	0	.6
TOTALS	100%	100%	100%	100%

* **Note:** Number of employees includes both full-time and part-time workers. The number is extracted from Item 1 of the company's most recent 10-K filing.

Table 5-4

NUMBER OF EMPLOYEES
Percentages by Marketplace
Public Companies on Disclosure Database
January, 1987

*Number of Employees:**

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
0-1	1.5	0	.2	0	.7	3.5
2-5	6.8	0	.2	.5	9.5	13.3
6-9	3.6	.3	1.0	.4	7.0	6.0
10-19	5.3	.5	1.0	1.1	11.0	8.2
20-49	8.9	.5	3.4	3.1	19.6	12.3
50-99	9.0	.8	6.9	7.7	15.7	10.8
100-199	10.8	1.5	9.8	13.4	14.6	11.8
200-499	14.3	4.7	22.8	23.6	13.0	11.6
500-999	9.8	8.0	20.5	17.7	4.7	5.9
1,000-1,999	8.8	11.7	15.7	15.0	2.1	5.3
2,000-4,999	9.5	22.2	12.7	11.7	1.5	5.6
5,000-9,999	4.9	17.4	4.3	3.9	.5	2.3
10,000-49,999	5.6	24.9	1.4	1.9	.1	2.8
50,000 or more	1.4	7.4	.3	0	0	.6
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Number of employees includes both full-time and part-time workers. The number is extracted from Item 1 of the company's most recent 10-K filing.

Profiles: Companies With Data Not Available on the Disclosure II Database

The next four tables, Tables 5-5 through 5-8, contain number of employees frequency distributions for a sample of 174 companies with data not available on the Disclosure II database.

Table 5-5

NUMBER OF EMPLOYEES
Frequency Distributions for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Number of Employees: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
0-1	61	42	15	4
2-5	16	9	4	3
6-9	11	9	1	1
10-19	13	9	2	2
20-49	12	5	2	5
50-99	7	3	3	1
100-199	10	4	5	1
200-499	19	5	12	2
500-999	4	2	2	0
1,000-1,999	9	1	6	2
2,000-4,999	4	0	4	0
5,000-9,999	6	4	2	0
10,000-49,999	2	1	1	0
50,000 or more	0	0	0	0
TOTALS	174	94	59	21

*Note: Number of employees includes both full-time and part-time workers. The number is extracted from Item 1 of the company's most recent 10-K filing.

Table 5-6

NUMBER OF EMPLOYEES
Frequency Distributions by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Number of Employees: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
0-1	61	20	22	7	8	4
2-5	16	5	4	2	2	3
6-9	11	5	4	0	1	1
10-19	13	6	3	1	1	2
20-49	12	2	3	1	1	5
50-99	7	2	1	1	2	1
100-199	10	4	0	3	2	1
200-499	19	3	2	9	3	2
500-999	4	2	0	1	1	0
1,000-1,999	9	1	0	4	2	2
2,000-4,999	4	0	0	4	0	0
5,000-9,999	6	3	1	1	1	0
10,000-49,999	2	1	0	0	1	0
50,000 or more	0	0	0	0	0	0
TOTALS	174	54	40	34	25	21

*Note: Number of employees includes both full-time and part-time workers. The number is extracted from Item 1 of the company's most recent 10-K filing.

Table 5-7

NUMBER OF EMPLOYEES
Percentages for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Number of Employees: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
0-1	35.1	44.7	25.4	19.0
2-5	9.2	9.6	6.8	14.3
6-9	6.3	9.6	1.7	4.8
10-19	7.5	9.6	3.4	9.5
20-49	6.9	5.3	3.4	23.8
50-99	4.0	3.2	5.1	4.8
100-199	5.7	4.3	8.5	4.8
200-499	10.9	5.3	20.3	9.5
500-999	2.3	2.1	3.4	0
1,000-1,999	5.2	1.1	10.2	9.5
2,000-4,999	2.3	0	6.8	0
5,000-9,999	3.4	4.3	3.4	0
10,000-49,999	1.1	1.1	1.7	0
50,000 or more	0	0	0	0
TOTALS	100%	100%	100%	100%

*Note: Number of employees includes both full-time and part-time workers. The number is extracted from Item 1 of the company's most recent 10-K filing.

Table 5-8

NUMBER OF EMPLOYEES
Percentages by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Number of Employees: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
0-1	35.1	37.0	55.0	20.6	32.0	19.0
2-5	9.2	9.3	10.0	5.9	8.0	14.3
6-9	6.3	9.3	10.0	0	4.0	4.8
10-19	7.5	11.1	7.5	2.9	4.0	9.5
20-49	6.9	3.7	7.5	2.9	4.0	23.8
50-99	4.0	3.7	2.5	2.9	8.0	4.8
100-199	5.7	7.4	0	8.8	8.0	4.8
200-499	10.9	5.6	5.0	26.5	12.0	9.5
500-999	2.3	3.7	0	2.9	4.0	0
1,000-1,999	5.2	1.9	0	11.8	8.0	9.5
2,000-4,999	2.3	0	0	11.8	0	0
5,000-9,999	3.4	5.6	2.5	2.9	4.0	0
10,000-49,999	1.1	1.9	0	0	4.0	0
50,000 or more	0	0	0	0	0	0
TOTALS	100%	100%	100%	100%	100%	100%

* **Note:** Number of employees includes both full-time and part-time workers. The number is extracted from Item 1 of the company's most recent 10-K filing.

Summary: Number of Employees as an Indicator of Size

It is interesting to note that by the SBA definition of small business as a business with less than 500 employees, the majority of public companies would be considered "small". By the more restrictive "less than 100 employees" definition, about 35% of the database companies would be "small". It would require setting the cutoff point at "less than 10 employees" to reduce the number of database companies considered "small" to 12% of the sample.

Among the non-database companies, the 5th percentile for number of employees in all marketplace categories was zero, compared to 5th percentiles for the database companies of 265 employees for New York Stock Exchange companies, 45 employees for American Stock Exchange companies, 48 employees for NMS companies, 4 employees for non-NMS NASDAQ companies, and 2 employees for other companies. The number of employees for the non-database sample can be misleading in some cases. For example, Diamond Shamrock Offshore Partners Limited Partnership is treated as having no employees, which is technically correct. However, as disclosed in the limited partnership's 10-K, 100 employees of the managing partner devote substantially all their work efforts to the business of the limited partnership. The reporting rules may need to be clarified for such cases if number of employees is to be used as a size criterion.

The median number of employees for non-database firms was three employees for exchange firms, compared to 2,428 for database exchange firms. For NASDAQ companies, the median for non-database firms was 193 employees, versus 220 for the database firms. For the non-database sample, the median number of employees for other companies was 14, compared to a median of 77 for the database other companies. If "under 10 employees" was used as the criterion to define a small company, 38.1% of the non-database other companies and 22.8% of the database other companies would be considered small public companies.

Table 5-9 on the following page provides number of employees summary statistics at the 5th percentile, median and 95th percentile for the database companies and the non-database sample.

Table 5-9

SUMMARY STATISTICS: NUMBER OF EMPLOYEES

	5th Percentile	Median	95th Percentile
Companies on Disclosure Database:			
New York Stock Exchange	265	4.876	70.202
American Stock Exchange	45	600	5.766
Exchanges	90	2.428	51.800
National Market System	48	500	5.494
non-NMS NASDAQ	4	54	860
NASDAQ	6	220	4.275
Other	2	77	6.105
Sample of Companies Not on Database:			
New York Stock Exchange	0	8	5.315
American Stock Exchange	0	1	59
Exchanges	0	3	5.000
National Market System *	0	220	3.942
non-NMS NASDAQ *	0	48	5.100
NASDAQ	0	193	5.100
Other	0	14	1.070

***Note:** The Disclosure list used as the sampling frame classified 13 of the sample companies as non-NMS NASDAQ which were part of the National Market System at December 31, 1986. If these companies were reclassified as NMS, the summary statistics would change as follows:

	5th Percentile	Median	95th Percentile
National Market System	no change	195	5.100
non-NMS NASDAQ	no change	3	1.342

NUMBER OF SHAREHOLDERS

Advantages and Disadvantages

The number of shareholders is currently used by the Securities and Exchange Commission, in conjunction with total assets, to tier 1934 Act requirements. The number of shareholders has also been used to tier regulations by the Office of the Comptroller of the Currency for bank regulation.

The primary advantage of using number of shareholders as a measure of size is that it represents the number of current investors who could benefit from mandated disclosures. Also, the lower the number of shareholders, the higher the costs of mandated disclosures on a per shareholder basis.

The major disadvantage attached to the use of number of shareholders as an indicator of size is that the number of shareholders of record may not fully reflect the number of interested owners. In 1964, when the number of shareholders threshold was introduced into the 1934 Act, security trading typically resulted in a stock certificate being transferred on the company's (or its transfer agency's) books from seller to buyer. Moving towards an increasingly "paperless" system, the recording system has now changed so that trades very often only involve entries on the books of a nominee or depository company, such as CEDE, without any recording elsewhere. CEDE often acts as nominee for affiliates of broker/dealers. These broker/dealers may themselves be acting as nominee on behalf of many investors. Thus, for example, an initial public offering which is sold to a large number of investors can result in only a small number of recordholders on the company's transfer records, showing CEDE as the largest recordholder. Also, even if the securities are recorded in the buyer's name, a large company with extensive institutional ownership can appear to have a relatively small number of shareholders, although indirectly many more people may have an interest in the firm.

Profiles: Companies With Data Available On the Disclosure II Database

Number of shareholders data were available for 8,513 companies on the Disclosure II database. Tables 5-10 to 5-13 on the following pages present frequency distributions of number of shareholders for these companies. The first table divides the sample into three groups — exchange companies, NASDAQ companies, and other companies. The second table divides the sample into five groups — New York Stock Exchange, American Stock Exchange, National Market System, non-NMS NASDAQ (NDQ) and other companies. The third and fourth tables present the same information in percentages rather than numerical frequencies.

Table 5-10

NUMBER OF SHAREHOLDERS
Frequency Distributions for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Number of Shareholders: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
0-1	477	34	14	429
2-9	84	2	6	76
10-19	31	1	3	27
20-99	242	8	82	152
100-199	336	12	138	186
200-299	361	13	180	168
300-399	535	27	239	269
400-499	503	41	208	254
500-999	1,709	165	793	751
1,000-1,999	1,552	330	674	548
2,000-4,999	1,402	459	577	366
5,000-9,999	582	275	201	106
10,000-19,999	289	196	47	46
20,000-49,999	237	201	16	20
50,000-99,999	90	77	5	8
100,000 or more	83	61	5	17
TOTALS	8,513	1,902	3,188	3,423

* **Note:** Number of shareholders is extracted from item 5 of the company's most recent 10-K filing.

Table 5-11

NUMBER OF SHAREHOLDERS
Frequency Distributions by Marketplace
Public Companies on Disclosure Database
January, 1987

Number of Shareholders: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
0-1	477	31	3	7	7	429
2-9	84	1	1	3	3	76
10-19	31	1	0	2	1	27
20-99	242	5	3	24	58	152
100-199	336	4	8	66	72	186
200-299	361	1	12	80	100	168
300-399	535	5	22	108	131	269
400-499	503	2	39	90	118	254
500-999	1,709	32	133	458	335	751
1,000-1,999	1,552	136	194	425	249	548
2,000-4,999	1,402	335	124	392	185	366
5,000-9,999	582	226	49	154	47	106
10,000-19,999	289	187	9	32	15	46
20,000-49,999	237	192	9	11	5	20
50,000-99,999	90	75	2	3	2	8
100,000 or more	83	60	1	4	1	17
TOTALS	8,513	1,293	609	1,859	1,329	3,423

*Note: Number of shareholders is extracted from item 5 of the company's most recent 10-K filing.

Table 5-12

NUMBER OF SHAREHOLDERS
Percentages for Exchange, NASDAQ and Other Companies
Public Companies on Disclosure Database
January, 1987

Number of Shareholders: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
0-1	5.6	1.8	.4	12.5
2-9	1.0	.1	.2	2.2
10-19	.4	.1	.1	.8
20-99	2.8	.4	2.6	4.4
100-199	3.9	.6	4.3	5.4
200-299	4.2	.7	5.6	4.9
300-399	6.3	1.4	7.5	7.9
400-499	5.9	2.2	6.5	7.4
500-999	20.1	8.7	24.9	21.9
1,000-1,999	18.2	17.4	21.1	16.0
2,000-4,999	16.5	24.1	18.1	10.7
5,000-9,999	6.8	14.5	6.3	3.1
10,000-19,999	3.4	10.3	1.5	1.3
20,000-49,999	2.8	10.6	.5	.6
50,000-99,999	1.1	4.0	.2	.2
100,000 or more	1.0	3.2	.2	.5
TOTALS	100%	100%	100%	100%

*Note: Number of shareholders is extracted from item 5 of the company's most recent 10-K filing.

Table 5-13

NUMBER OF SHAREHOLDERS
Percentages by Marketplace
Public Companies on Disclosure Database
January, 1987

Number of Shareholders: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
0-1	5.6	2.4	.5	4	.5	12.5
2-9	1.0	.1	.2	.2	.2	2.2
10-19	.4	.1	0	.1	.1	.8
20-99	2.8	.4	.5	1.3	4.4	4.4
100-199	3.9	.3	1.3	3.6	5.4	5.4
200-299	4.2	.1	2.0	4.3	7.5	4.9
300-399	6.3	.4	3.6	5.8	9.9	7.9
400-499	5.9	.2	6.4	4.8	8.9	7.4
500-999	20.1	2.5	21.8	24.6	25.2	21.9
1,000-1,999	18.2	10.5	31.9	22.9	18.7	16.0
2,000-4,999	16.5	25.9	20.4	21.1	13.9	10.7
5,000-9,999	6.8	17.5	8.0	8.3	3.5	3.1
10,000-19,999	3.4	14.4	1.5	1.7	1.1	1.3
20,000-49,999	2.8	14.8	1.5	.6	.4	.6
50,000-99,999	1.1	5.8	.3	.2	.2	.2
100,000 or more	1.0	4.6	.2	.2	.1	.5
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Number of shareholders is extracted from item 5 of the company's most recent 10-K filing.

Profiles: Companies With Data Not Available on the Disclosure II Database

The next four tables, Tables 5-14 through 5-17, contain number of shareholders frequency distributions for a sample of 232 companies with data not available on the Disclosure II database.

Table 5-14

NUMBER OF SHAREHOLDERS
Frequency Distributions for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Number of Shareholders: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
0-1	1	1	0	0
2-9	0	0	0	0
10-19	0	0	0	0
20-99	1	1	0	0
100-199	4	0	2	2
200-299	4	2	0	2
300-399	3	1	1	1
400-499	10	3	2	5
500-999	30	5	19	6
1,000-1,999	39	17	19	3
2,000-4,999	61	45	14	2
5,000-9,999	36	28	7	1
10,000-19,999	31	21	9	1
20,000-49,999	9	8	1	0
50,000-99,999	2	2	0	0
100,000 or more	1	1	0	0
TOTALS	232	135	74	23

*Note: Number of shareholders is extracted from item 5 of the company's most recent 10-K filing.

Table 5-15

NUMBER OF SHAREHOLDERS
Frequency Distributions by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Number of Shareholders: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
0-1	1	0	1	0	0	0
2-9	0	0	0	0	0	0
10-19	0	0	0	0	0	0
20-99	1	0	1	0	0	0
100-199	4	0	0	1	1	2
200-299	4	0	2	0	0	2
300-399	3	0	1	0	1	1
400-499	10	3	0	0	2	5
500-999	30	0	5	9	10	6
1,000-1,999	39	7	10	10	9	3
2,000-4,999	61	26	19	11	3	2
5,000-9,999	36	25	3	3	4	1
10,000-19,999	31	18	3	7	2	1
20,000-49,999	9	5	3	1	0	0
50,000-99,999	2	1	1	0	0	0
100,000 or more	1	0	1	0	0	0
TOTALS	232	85	50	42	32	23

*Note: Number of shareholders is extracted from item 5 of the company's most recent 10-K filing.

Table 5-16

NUMBER OF SHAREHOLDERS
Percentages for Exchange, NASDAQ and Other Companies
Sample of Public Companies Not on Disclosure Database
January, 1987

Number of Shareholders: *

	TOTAL	EXCHANGE	NASDAQ	OTHER
0-1	.4	.7	0	0
2-9	0	0	0	0
10-19	0	0	0	0
20-99	.4	.7	0	0
100-199	1.7	0	2.7	8.7
200-299	1.7	1.5	0	8.7
300-399	1.3	.7	1.4	4.3
400-499	4.3	2.2	2.7	21.7
500-999	12.9	3.7	25.7	26.1
1,000-1,999	16.8	12.6	25.7	13.0
2,000-4,999	26.3	33.3	18.9	8.7
5,000-9,999	15.5	20.7	9.5	4.3
10,000-19,999	13.4	15.6	12.2	4.3
20,000-49,999	3.9	5.9	1.4	0
50,000-99,999	.9	1.5	0	0
100,000 or more	.4	.7	0	0
TOTALS	100%	100%	100%	100%

* **Note:** Number of shareholders is extracted from item 5 of the company's most recent 10-K filing.

Table 5-17

NUMBER OF SHAREHOLDERS
Percentages by Marketplace
Sample of Public Companies Not on Disclosure Database
January, 1987

Number of Shareholders: *

	TOTAL	NYS	AMS	NMS	NDQ	OTHER
0-1	.4	0	2.0	0	0	0
2-9	0	0	0	0	0	0
10-19	0	0	0	0	0	0
20-99	.4	0	2.0	0	0	0
100-199	1.7	0	0	2.4	3.1	8.7
200-299	1.7	0	4.0	0	0	8.7
300-399	1.3	0	2.0	0	3.1	4.3
400-499	4.3	3.5	0	0	6.3	21.7
500-999	12.9	0	10.0	21.4	31.3	26.1
1,000-1,999	16.8	8.2	20.0	23.8	28.1	13.0
2,000-4,999	26.3	30.6	38.0	26.2	9.4	8.7
5,000-9,999	15.5	29.4	6.0	7.1	12.5	4.3
10,000-19,999	13.4	21.2	6.0	16.7	6.3	4.3
20,000-49,999	3.9	5.9	6.0	2.4	0	0
50,000-99,999	.9	1.2	2.0	0	0	0
100,000 or more	.4	0	2.0	0	0	0
TOTALS	100%	100%	100%	100%	100%	100%

*Note: Number of shareholders is extracted from item 5 of the company's most recent 10-K filing.

Summary: Number of Shareholders as an Indicator of Size

The Disclosure II database contained data on number of shareholders for about 82% of the companies, including about 73% of the other companies. For the database companies, there is a strong size difference between the marketplaces. At the 5th percentile, there are 390 shareholders for an exchange firm, 102 shareholders for a NASDAQ firm, but only a single shareholder for the other companies. At the median, the comparable figures are 3,762 for exchange companies, 900 for NASDAQ companies and 563 for other companies. For all the database companies combined, the 95th percentile was at the 19,000 shareholder level. However the 95th percentile ranged from 95,281 for New York Stock Exchange companies to 5,000 for non-NMS NASDAQ and 5,741 for other companies.

For the non-database sample, there were fewer companies with very small numbers of shareholders and fewer companies with very large numbers of shareholders. Most interestingly, the 5th percentile for non-database other companies was 195 shareholders, compared to 1 shareholder for the database sample. This difference reflects the kind of companies excluded from the database. For example, real estate and oil and gas limited partnerships, which are exluded from the database, can have substantial numbers of shareholders (unit holders).

Table 5-18 on the following page provides number of shareholder summary statistics at the 5th percentile, median and 95th percentile for the database companies and the non-database sample.

Table 5-18

SUMMARY STATISTICS: NUMBER OF SHAREHOLDERS

	5th Percentile	Median	95th Percentile
Companies on Disclosure Database:			
New York Stock Exchange	777	6,816	95,281
American Stock Exchange	330	1,334	8,146
Exchanges	390	3,762	72,582
National Market System	186	1,115	7,773
non-NMS NASDAQ	95	704	5,000
NASDAQ	102	900	6,798
Other	1	563	5,741
Sample of Companies Not on Database:			
New York Stock Exchange	1,486	7,038	21,158
American Stock Exchange	210	2,936	24,471
Exchanges	418	4,179	22,729
National Market System *	658	2,286	17,903
non-NMS NASDAQ *	344	1,234	12,826
NASDAQ	417	1,700	17,500
Other	195	550	5,400

***Note:** The Disclosure list used as the sampling frame classified 13 of the sample companies as non-NMS NASDAQ which were part of the National Market System at December 31, 1986. If these companies were reclassified as NMS, the summary statistics would change as follows:

	5th Percentile	Median	95th Percentile
National Market System	526	1,953	no change
non-NMS NASDAQ	417	1,066	7,800

CHAPTER SIX:
MULTIPLE CRITERIA INDICATORS OF SIZE

The single criterion measures of size examined in Chapters Three through Five each have advantages and disadvantages. Any single criterion measure will be somewhat arbitrary. It is difficult to provide a single criterion measure of size that is applicable across industries and over time, and is readily accessible information. The use of a multiple criteria definition of size may be helpful in reducing arbitrariness. This chapter examines several issues concerning multiple criteria definitions of size.

EVALUATING THE CRITERIA

Ideally, in constructing a multiple criteria definition of size, the component criteria should complement each other. The strengths of one component should offset the weaknesses of another component. Consequently, the first issue to consider in forming a multiple criteria definition of size is the relative strengths and weaknesses of the candidate components. This section briefly reviews the single criterion measures of size discussed in the previous chapters in order to construct a suggested list of candidate components for a multiple criteria definition of a "small public company".

Financial Statement Indicators of Size

The first set of single criterion measures of size considered were the financial statement indicators of size — total assets, shareholders' equity, net sales and net income. Total assets reflects the financial resources controlled by the firm. Shareholders' equity reflects the shareholders' investment in the firm. Net sales and net income reflect the size of current operations.

Of the four measures, net income appears to be the weakest size measure. Net income suffers from a lack of stability and lacks utility as a size measure due to the large numbers of companies with losses or zero net income. For any cutoff greater than zero net income, a large number of public companies would be considered 'small'. Net sales has also been criticized for lack of stability, although it is less volatile than net income. Shareholders' equity and total assets tend to be more stable measures than net sales, but are primarily reflective of historical dollars rather than

current values. Of the four financial statement indicators of size, only net income has disadvantages which clearly outweigh its advantages.

Market-based Indicators of Size

The second set of single criterion measures of size considered were the market-based indicators — share price, trading (share) volume, market value and trading activity (number of transactions/days traded).

All four measures suffer from a lack of readily accessible, reliable data sources for the entire spectrum of SEC-reporting companies. This is particularly true for the non-NASDAQ over-the-counter firms which form the bulk of public companies. All four measures may also be subject to wide short term fluctations, which is undesirable for a size measure, and may also, under some circumstances, be subject to manipulation. Market value is less subject to manipulation than either share price or volume individually and it is a more direct measure of the amount shareholders have at risk in the company. Also, whereas trading activity may be reflective of the demand for information for investment decisions, market value is more likely to be reflective of the information demands for both investment decisions and corporate suffrage (voting) decisions. Thus, market value would seem to dominate share price, volume or trading activity as a measure of size.

Given the current lack of reliable market value data for many over-the-counter stocks, this measure is presently impractical. However, data may become more readily available in the future following developments such as the NASD's computerization of trading information for a large number of non-NASDAQ over-the-counter companies.

Data on trading activity (number of transactions/number of days traded) may be easier to add to the current information base than market value, as trading activity is easier to measure than market value for thinly-traded stocks. However, since trading activity data are currently unavailable for many SEC-reporting companies, its utility as an indicator of size is difficult to evaluate.

Other Indicators of Size

The final set of single criterion measures of size considered were two other criteria — number of employees and number of shareholders. Number of employees has several advantages as a measure of size, including general availability, invariance with price level changes, and

relative stability. On the negative side, industry and technological differences may cause problems with this measure. The number of shareholders is a readily available measure of size which reflects the number of investors who could benefit from disclosures. The number of shareholders also proxies for a cost-benefit measure as the smaller the number of shareholders, the higher the costs of mandated disclosure are on a per shareholder basis. However, the number of recordholders of a security may not fully reflect the number of owners of a security, given the widespread use of nominee or depository company names as recordholders. Both number of employees and number of shareholders appear to be candidate components for a multiple criteria definition of a small public company.

CHOOSING THE CRITERIA

The choice of the most appropriate criteria to use in a size definition is a function of the purpose of the definition. For example, since taxes are based on revenues less deductions, either net sales or net income would be a more appropriate size criterion than number of shareholders if regulatory relief from tax requirements were under consideration.

Which of the criteria are most appropriate for determining the definition of a small public company for the purposes of regulatory relief from 1934 Act requirements? This section discusses the characteristics which may be relevant for determining regulatory relief from 1934 Act reporting requirements, classifies the ten proposed size indicators according to these characteristics, and discusses measurement of the characteristics.

Characteristics

The primary audiences for 1934 Act disclosures are the trading market of current and potential investors and those current shareholders who need information for corporate suffrage decisions. Since the costs of mandated disclosures must be borne by the shareholders, a cost-benefit perspective on regulatory relief from reporting requirements would focus on two characteristics: the size of the user group and the amount the user group has at risk.

A more generic call for regulatory relief for small businesses, might also lead to consideration of another characteristic: the absolute size of a company's operations. This third characteristic is concerned with the size of the reporting entity itself, rather than with the size of the user group.

While there is some overlap between these characteristics, the ten proposed size indicators can be classified into three groups: (1) those which primarily reflect the size of the user group (share volume, trading activity, and number of shareholders); (2) those which primarily reflect the amount the user group has at risk (shareholder's equity, market value and share price); and (3) those which primarily reflect the size of the entity (total assets, sales, net income, and number of employees). Table 6-1, below, summarizes this categorization.

Table 6-1

PRIMARY CHARACTERISTICS OF THE TEN PROPOSED SIZE INDICATORS

	PRIMARY CHARACTERISTIC REFLECTED:		
Type of Indicator	**SIZE OF THE USER GROUP**	**AMOUNT AT RISK**	**SIZE OF THE ENTITY**
Financial statement indicators		Shareholders' equity	Total assets
			Sales
			Net income
Market-based indicators	Share volume	Market value	
	Trading activity	Share price	
Other indicators	Number of shareholders		Number of employees

These characteristics — size of the user group, amount the user group has at risk, and size of the entity — provide the potential building blocks for a definition of "small public company". The choice of relevant characteristics is a policy decision. One, two, or all three of the characteristics could be included as components in a size definition.

Measurement Issues

Once the component characteristics are chosen, the relative advantages and disadvantages of the ten proposed size indicators should be considered in determining how the characteristic will be measured. Some size indicators may dominate other possible measures of a particular characteristic. For example, suppose you want a definition which will consider the amount the user group has at risk. Shareholders' equity — which provides a primarily historical measure of investment in the firm — may be the most feasible single measure. Share price and market value are impractical measures given the current lack of reliable, readily accessible data for thinly traded firms. Similarly, number of shareholders would seem to dominate either share volume or trading activity as a measure of size of the user group. And either total assets, sales or number of employees would likely provide more stable measures of size of the entity than net income.

The measurement of a characteristic need not be restricted to a single criterion. Alternatively, two or more size indicators might be used to measure a single component characteristic. For example, two criteria could be used conjunctively to measure the amount at risk, such as "fewer than $xx shareholders' equity and less than $xxx market value". Or, the same two criteria could be used disjunctively, such as "fewer than $xx shareholders' equity or less than $xxx market value".

Thus, there are many possible combinations of criteria to measure the component characteristics of a "small public company". The following section provides an example of the differential impact of using a single criterion versus multiple criteria to define size, and of using conjunctive versus disjunctive measures of the component characteristics.

COMBINING THE CRITERIA

Creating a multiple criteria definition of size can reduce the arbitrariness of any single criterion definition and ensure that multiple perspectives are considered. However, the number of companies which will be considered "small" will be affected by the combination of criteria chosen. This is because, as the British discovered in a series of research studies on U. K. small businesses, the different possible quantitative measures of size are not highly correlated.[1]

[1] See, for example, Margaret Hall, *The Small Unit in the Distributive Trades*, Committee of Inquiry on Small Firms, Research Report #8, London: Her Majesty's Stationery Office, 1971.

In order to estimate the correlation between the quantitative measures of size for U. S. companies, a sample of 350 companies was chosen from the database. The sample included 63 New York Stock Exchange, 32 American Stock Exchange, 50 NMS, and 65 non-NMS NASDAQ firms, randomly chosen from those exchange and NASDAQ firms with complete data for the eight size measures included on the database: assets, sales, net income, shareholders' equity, number of shareholders, number of employees, share price and volume. The sample also included 140 randomly chosen Other firms, which had complete data for six of the size variables, but did not include price or volume data.

Size Variable Correlations

Table 6-2, below, presents the simple (zero-order) correlations of the eight size measures for the 350 companies in the sample (210 companies for those correlations involving price or volume). The following Table, Table 6-3, presents the partial correlations between all possible pairs of the size measures, controlling for the other potential size measures.

As can be seen from these tables, while the simple correlations are all statistically significant, the magnitutdes of the correlations range from a low of .1557 to a high of .9345. Of the 28 simple correlations, four (14%) fall between .150 and .299; six (21%) fall between .300 and .449; four (14%) fall between .450 and .599. Thus, half the correlations are less than .600. Additionally, five of the correlations (18%) fall between .600 and .749; eight (29%) fall between .750 and .899; and only one (4%) is over .900. The lower the magnitude of the correlation, the greater the divergence in size measures. Consider, for example, that the correlation between assets and number of shareholders, while statistically significant, had a magnitude of less than .16. The result is that for each criterion added to a multiple criteria definition of size, the number of firms which qualify as small may change significantly. For the exchange and NASDAQ firms, where data on eight size variables is available on the database, the 28 sixth-order partial correlations range in magnitude from −.5351 to +.5406. Only 17 of the 28 partial correlations reach significance at the .01 level. When the sample is expanded to 350 firms, including 140 Other firms and excluding price and volume data, 15 fourth-order partial correlations between the six remaining size variables can be computed. These correlations range in magnitude between −.3674 and +.5456, with just over half of the partial correlations (eight) reaching significance at the .01 level.

Because the possible measures of size are not all highly correlated, the number of companies which will be considered "small" will be affected by the combination of criteria chosen to define size. The remainder of this chapter presents an example of the differential impact of single and multiple criteria definitions of public company size on the number of companies considered "small". The example is based on the multiple criteria definition of size now used for 1934 Act reporting exemptions. The example is also used to illustrate the differential impact of employing disjunctive and conjunctive measures for a component characteristic of the size definition.

Table 6-2

SIMPLE (ZERO-ORDER) CORRELATIONS OF SIZE VARIABLES*

	Sales	Income	Equity	Share-holders	Employees	Price	Volume
Assets	.7118	.6036	.6860	.1557	.5831	.3775	.6945
Sales		.7985	.9345	.2969	.8189	.4313	.8059
Income			.8242	.2325	.5774	.4562	.6975
Equity				.3398	.8272	.4538	.8737
Shareholders					.3374	.2464	.8355
Employees						.3557	.8414
Price							.4101

* **Note:** This table is based on a sample of firms from the Compact Disclosure II January, 1987 database. Those correlations involving price and volume are for a sample of 210 exchange and NASDAQ firms; all other correlations are for a sample of 350 firms, including the same 210 exchange and NASDAQ firms plus 140 other firms. All correlations are significant at the .001 level, except for the correlation between assets and shareholders which is significant at the .002 level.

Table 6-3

PARTIAL CORRELATIONS OF SIZE VARIABLES*
(significance indicated parenthetically)

	Assets	Sales	Income	Equity	Share holders	Employees	Price	Volume
Assets	*	.3017	.0501	.0066	− 3959	− 0338	− 0523	4519
	*	(.001)	(.238)	(.463)	(.001)	(.316)	(.229)	(.001)
Sales	.2476	*	.2700	.5406	− 1085	.3062	− 0562	− .1679
	(.001)	*	(.001)	(.001)	(.061)	(.001)	(.212)	(.008)
Income	.0478	.2107	*	.3769	.3543	− .5351	.2259	− .0727
	(.188)	(.001)	*	(.001)	(.001)	(.001)	(.001)	(.151)
Equity	.0671	.5456	.4598	*	-.0399	.3084	.0474	.3033
	(.107)	(.001)	(.001)	*	(.285)	(.001)	(.251)	(.001)
Shareholders	-.0961	− .0511	− .0333	.1469	*	.4924	- .2706	.5176
	(.037)	(.172)	(.269)	(.003)	*	(.001)	(.001)	(.001)
Employees	.0049	.2889	− .3674	.4006	.1014	*	.1286	.0759
	(.464)	(.001)	(.001)	(.001)	(.030)	*	(.033)	(.140)
Price							*	.1628
								(.010)

* **Note:** This table is based on a sample of firms from the Compact Disclosure II January, 1987 database. Those correlations appearing to the upper right of the diagonal are the **sixth-order partial correlations** of the variable pairs, controlling for the other six potential size variables. These correlations are for a sample of 210 exchange and NASDAQ firms. The correlations appearing to the lower left of the diagonal are the **fourth-order partial correlations** of the variable pairs, controlling for the four other potential size variables (excluding price and volume). These correlations are for a sample of 350 firms, including the same 210 exchange and NASDAQ firms plus 140 other firms.

An Example: Single Criterion versus Multiple Criteria

The Securities and Exchange Commission uses multiple criteria to determine exemption from current 1934 Act reporting requirements. The two criteria used are ceilings for total assets and number of shareholders. From the perspective developed previously, these measures relate to two component characteristics of a size definition: the size of the entity and the size of the user group. The current thresholds, $5 million in total assets and 500 shareholders, were established in 1986.

What is the impact on the number of public companies eligible for exemption based on these joint criteria, rather than either total assets or number of shareholders individually? Much of the company information in the Disclosure database is based on the company's most recent 10-K or annual report filing. Given the time lag between a company's fiscal year end and the due date for the filing of its 10-K report, the January 1987 database information would generally be taken from 10-Ks for fiscal year ends between October 1985 and September 1986. The bulk of these 10-Ks were filed when the exemption rules for 1934 Act disclosures were based on the multiple criteria of less than $3 million of assets and less than 500 shareholders. Thus, the database may be examined to determine the potential number of companies affected by the July, 1986, liberaliztion of the exemptions to the new threshold of under $5 million of assets and less than 500 shareholders.

A total of 924 companies on the January, 1987, database reported assets of under $5 million and less than 500 shareholders for their most recent fiscal year. This is about 9% of the companies included on the database. Of these 924, 647 (about 70%) were in the "other" category (not New York Stock Exchange, American Stock Exchange or NASDAQ). These companies would be potentially affected by the liberalization of the total assets threshold requirement. Provided they did not have any other reason (such as a section 15(d) requirement) to file, they would no longer be required to make future 1934 Act 10-K filings. The remaining exchange and NASDAQ companies would not be required to report by SEC size threshold rules, but would still need to file the disclosures in order to meet the requirements for exchange or NASDAQ trading.

The differential impact of single criterion and multiple criteria definitions of small public companies can be examined by looking at the difference between the number of companies with less than $5 million in assets, the number of companies with less than 500 shareholders, and the number of companies meeting both criteria. The impact of the use of multiple criteria is substantial. Whereas only 924 companies meet both criteria, 2,569 had less than 500 shareholders and 3,099 had less than $5 million of assets. Table 6-4, below, provides details.

Table 6-4

EXAMPLE: IMPACT OF A MULTIPLE CRITERIA DEFINITION ON NUMBER OF "SMALL PUBLIC COMPANIES"

	Assets Less Than $5 million	Less Than 500 Shareholders	Both
Number of companies:			
New York Stock Exchange	4	50	0
American Stock Exchange	8	88	3
National Market System	52	380	17
non-NMS NASDAQ	777	490	257
Other	2,258	1,561	647
Totals	3,099	2,569	924

Data source: Disclosure II database, January, 1987, records on 10,440 public companies.

The differential impact of single versus multiple criteria is of particular interest for the non-NASDAQ over-the-counter firms, which are not required by exchange or NASDAQ rules to make voluntary disclosures in the absence of SEC requirements. As can be seen in Table 6-2, for the "other" firms category on the Disclosure database, 2,258 had assets less than $5 million and 1,561 had less than 500 shareholders, but only 647 met both criteria. Thus, while about one in three of the other firms on the database met the number of shareholders single criterion size definition, the number of these firms qualifying as small drops by almost 60% under the multiple criteria definition. Far fewer firms meet the multiple criteria definition of small than either of the single criterion definitions.

Several things should be considered in interpreting this difference. First, the direction of the impact depends on whether the size definition is being used to govern *entry* into the system, or *exemption* once entered into the system. If the definition of size was used to originally determine if a company should become subject to 1934 Act reporting requirements, fewer companies would initially enter the system based on the multiple criteria definition. This, in turn, means that *more* companies would be relieved of reporting obligations when multiple criteria were used to govern initial entry into the system. However, once in the system, if the definition of size was used to determine exemption from further reporting, as in the above example, far *fewer* companies would be relieved of reporting obligations under the multiple criteria definition. Also, it should be noted that the regulatory relief provided by changes to 1934 Act filing requirements can always be blunted by the necessity to voluntarily comply with 1934 Act reporting requirements in order to meet the standards of self-regulatory organizations. In the past, this has been true for exchange and NASDAQ firms, but not for other firms. In the future, as some of the non-NASDAQ over the-counter firms become part of automated bulletin board systems, an even larger number of companies is likely to find it necessary to voluntarily make 1934 Act filings.

An Example: Conjunctive versus Disjunctive Measures

Now, consider the impact of using conjunctive or disjunctive measures of a single characteristic component of the size definition. Continuing the above example, suppose that the "size of entity" characteristic was to be measured using two criteria, total assets and number of employees. The total assets threshold, continuing the above example, remains at $5 million,

and the number of employees threshold is to be set at "less than 100 employees".

First consider the case if the two criteria are used conjunctively to measure company size — i.e. a threshold of "less than $5 million of assets *and* less than 100 employees" — with the second component characteristic, size of the user group, continuing to be measured at a threshold of less than 500 shareholders. The number of companies meeting the definition of "small public company" drops from 924 with the original two characteristics definition (each measured via one criterion) to 596 with the two characteristics/three criteria definition. For the other over-the-counter companies, the drop is over 40 percent, from 647 companies to 377 companies.

In contrast, consider the case if the total assets and number of employees criteria were used disjunctively to measure entity size. The threshold rule would now become: (1) less than $5 million total assets *or* less than 100 employees, and (2) less than 500 shareholders. The use of two disjunctive measures of entity size would increase the number of firms eligible for regulatory relief from 924 to 1,272, including an increase for other over-the-counter firms from 647 to 835 (29%).

A disjunctive approach liberalizes the number of firms which would be considered "small" based on a particular size characteristic. This might be advantageous if one or more of the appropriate measures of a component of size vary across industries. For example, the two choices to measure entity size (total assets or number of employees) in the example above avoids favoring either labor-intensive or capital-intensive firms.

On the other hand, the conjunctive approach provides a more stringent measurement of the size characteristic. Companies must meet two (or more) measurement thresholds to qualify as small on a single characteristic. This could help reduce anomalies, wherein an apparently large firm meets the definition of "small". For example, the use of conjunctive measures in the above example would reduce the chance that a highly automated manufacturing firm, with few employees but large amounts of assets and sales, would be considered "small".

CHAPTER SEVEN:
SUMMARY OF RESEARCH OBJECTIVES, METHOD AND CONCLUSIONS

OBJECTIVES OF THE STUDY

Within the past decade, the goal of regulatory relief for small businesses has been clearly established as a public policy goal. With the adoption of Form S-18 and Regulation D exemptions from the requirements of the Securities Act of 1933, the Securities and Exchange Commission has made considerable strides in easing access to the securities markets for small businesses. In July, 1986, the Securities and Exchange Commission liberalized the exemptions from reporting requirements under the Securities Exchange Act of 1934. At the same time, the SEC called for information and suggestions concerning possible substitute or supplementary criteria governing entry into, and exemption from, 1934 Act requirements.

There are three important questions to be asked when considering regulatory relief for small businesses: (1) What is a small business? (2) What are the costs of regulation? and (3) What are the benefits of regulation? There is a natural order to the questions. The development of a reasonable, reliable operating definition of "small business" when the term is applied to public companies is a necessary prerequisite to continued efforts to measure the costs and benefits of regulation and to continued efforts to provide regulatory relief for small businesses.

The primary goal of this research study was to explore some alternative possible definitions of "small public companies". In particular, the study had three objectives:

(1) to develop descriptive data on SEC-reporting companies based on various possible indicators of size;

(2) to determine how many public companies would be considered "small businesses" under various single criterion definitions of the term; and

(3) to examine the impact of using multiple criteria to define "small businesses" for public companies.

METHOD

Based on a review of the literature on small businesses, ten possible measures of size were selected for study. Four of the measures were financial statement indicators of size — total assets, shareholders' equity, net sales and net income. Four were market-based indicators of size — share price, trading (share) volume, market value and trading activity (number of transactions/days traded). The final two measures were other indicators of size — number of employees and number of shareholders.

Descriptive data on these ten measures were collected for a large sample of public companies. There were more than 14,000 SEC-reporting companies as of January, 1987. Data on over 10,000 of these companies were obtained from the Disclosure II database. Additionally, data were collected for a sample of 144 exchange companies, 86 NASDAQ companies and 38 other over-the-counter companies which were not included on the database. Data for this sample were collected through an examination of SEC filings made during 1986 and through sources such as Standard and Poor's. Finally, data were also provided by the New York Stock Exchange, the American Stock Exchange and the National Association of Securities Dealers.

The previous uses of the ten possible single criterion size measures in tiering regulatory requirements were reviewed and the advantages and disadvantages of the measures were assessed. Frequency distributions and summary statistics related to each of these size measures were developed and reported for both the companies included on the Disclosure database and the sample of companies not included on the database. The frequency distributions may be used to determine the number of public companies that would be considered "small businesses" at various threshold levels of the single criterion measures of size. The summary statistics provide a picture of the typical size of public companies and the extremes of the size range. Both the frequency distributions and the summary statistics provide a breakdown by marketplace.

CONCLUSIONS

Three characteristics might be considered in the formulation of a definition of small public company: the size of the user group, the amount the user group has at risk, and the size of the reporting entity itself. The ten potential size indicators can be related to these three characteristics. Share volume, trading activity and number of shareholders

primarily reflect the size of the user group. Shareholders' equity, market value and share price primarily reflect the amount the user group has at risk. Total assets, sales, net income and number of employees primarily reflect the size of the entity.

For each of the three characteristics, some of the size indicators seem to dominate other potential measures. The number of shareholders and shareholders' equity provide appropriate size criteria from a cost-benefit perspective which focuses on the size of the user group and the amount the user group has at risk. Shareholders' equity provides a primarily historical measure of investment in the firm, whereas number of shareholders provides a current measure of the size of the user group. The four market-based measures of size currently appear to have disadvantages which outweigh their advantages as potential criteria for defining small public companies. The market-based measures suffer from a lack of reliable, easily accessible data for thinly-traded securities, particularly for the large number of public companies in the non-NASDAQ over-the counter market. These measures are also subject to wide short term fluctuations which may limit their utility as size indicators.

From the perspective of the size of the entity itself, total assets, net sales and number of employees provide appropriate size criteria. Total assets provides an indicator of financial resources primarily on an historical basis, whereas net sales and number of employees provide an indication of size based on current operations. The lack of stability in net income and the large number of public companies experiencing losses makes net income an impractical indicator of size.

Various issues concerning multiple criteria definitions of a small public company were explored. The move from a single criterion definition to a multiple criteria definition of size has the advantages of reduced arbitrariness and the representation of complementary perspectives. However, because of less than perfect correlation between the various criteria, the number of firms qualifying as "small" may change significantly as criteria are added to the size definition. Moreover, it is also possible to use multiple measures for any of the size characteristics. Using multiple measures disjunctively will tend to liberalize the number of firms qualifying as small for a given characteristic. This can be helpful in ameliorating differences across industries or over time. For example, allowing a choice of either total assets or number of employees thresholds to determine the size of the entity avoids favoring either labor-intensive or capital-intensive

firms. The use of a conjunctive approach tends to produce more stringent measurement of the size characteristic, which can be helpful in avoiding anomolies. Thus, for example, a conjunctive definition of entity size based on both total assets and number of employees would reduce the risk that a highly automated manufacturing firm, with few employees but large amounts of assets and sales, would be considered small.

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